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ABSTRACT

Photo-essays focus on the progress colleges and universities have made in achieving program accessibility for handicapped persons in compliance with Section 504 of the Rehabilitation Act of 1973. Both common problems and innovative solutions to unique problems are included. "People We Never See" introduces the challenge higher education faces to overcome both attitudinal and architectural barriers. "Becoming Aware" depicts campus activities designed to sensitize administrators and students to problems handicapped persons face. "Matching Places to People" specifically deals with architectural modifications that involve adapting facilities to the persons who use them instead of requiring handicapped persons to overcome barriers. "Opening Doors to Special Spaces" shows how campuses have made science laboratories and sports facilities accessible to handicapped persons. "Protecting Human Lives" aidresses the problems of assuring the safety of all persons on campuses and establishing emergency procedures appropriate for both able-bodied and handicapped persons. Other articles include "Taking Time to Listen," "Providing the Comforts of Home," "Putting the Campus on the Map," "New Wheels to Freedom," "Bridging Communications Gaps," and "The Ultimate Benefit." (Author/MLF)

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Steps Toward Campus Accessibility

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Preface

The Association of Physical Plant Administrators of Universities and Colleges (APPA) has been working since 1976 to assist campus administrators in achieving accessibility to handicapped persons. *Steps Toward Campus Accessibility* is a product of the ongoing efforts of APPA's Office of Special Programs to provide authoritative, useful and timely information on accessibility issues.

Steps Toward Campus Accessibility reports the progress campuses have made in achieving accessibility and presents practical solutions campuses have applied to accessibility problems. It is designed to recognize colleges and universities that have made significant contributions to educating handicapped persons in an accessible environment. It is also intended to inspire campus administrators to find economical, workable solutions to both common and unique problems.

Steps Toward Campus Accessibility is being sent to the chief executive officers of all colleges and universities recognized by the U.S. Commissioner on Education and to all institutional representatives of APPA. This was made possible by a grant from the Department of Health, Education and Welfare's (HEW's) Office Of Information, Bureau of Education for the Handicapped. Additional copies are available from APPA for $5.50 each.

This publication was produced as part of Project HEATH (Higher Education and the Handicapped). This interassociation project, funded in part by HEW, is designed to help colleges and universities economically comply with HEW's regulations for implementing Section 504 of the Rehabilitation Act of 1973.

Other APPA publications and services are available to persons needing assistance in meeting HEW's June, 1980 deadline for achieving full program accessibility in compliance with Section 504. The inside back cover of this publication contains information about APPA's other accessibility publications and services.

We hope you find this publication to be useful and informative. Please feel free to call or write if we can assist you in any way.

Richard W. Anderson, Jr.
Director of Special Programs
Maggie Coons
Staff Associate/Special Programs

Published by:

APPA

The Association of Physical Plant Administrators of Universities and Colleges
Eleven Dupont Circle, Suite 250
Washington, D.C. 20036

Steps Toward Campus Accessibility

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Paul T. Knapp
Executive Director

Project Administrator:
Richard Anderson, Jr.
APPA Director of Special Programs

Editor
and Project Manager:
Maggie Coons
APPA Staff Associate/Special Programs

Advisory Committee for Project HEATH
(Higher Education and the Handicapped):

Thomas Lillis
Director of Physical Plant
Gallaudet College

John Burnett
Universitywide Coordinator of Physical Plant Operations
University of California

Charles Seaver
Director of Physical Plant
Wright State University

Henry Beasley
Accessibility Coordinator
Gallaudet College

Rita McGaughey
Coordinator of Education and Training
National Easter Seal Society for Crippled Children and Adults

John Lancaster
National Advocacy Director
Paralyzed Veterans of America

APPA President:
Walter Wade

Cover Photographs:
Left — University of Texas at Austin
Top Right — Lane Community College
Bottom Right — Colorado State University

People We Never See

"There are in this country tens of millions of people who have difficulty hearing, seeing, moving, learning, controlling their emotions, talking. But all are people. Their disabilities are real, but so are their abilities. They are disabled, but they need not be handicapped. Yet we handicap them.

"For two hundred years, we have designed a nation for the average, normal, able-bodied majority, little realizing that millions cannot enter many of our buildings, ride our subways and buses, enjoy our educational and recreational programs and facilities, and use our communications systems. We have created an image of disabled people that is perhaps the greatest barrier they face. We see the disability—the chrome and the leather, the guide dog, the hearing aid, the crutches—and look the other way. Just as we cannot seem to see the man in the policeman, so imposing are the uniform and the cultural expectations that go with it, so we cannot see the woman in the wheelchair. We do not see, nor do we look to find, her abilities, interests, and desires. We condescend, we mutter hurried excuses, and we flee — because we do not understand, and somewhere inside us, we are afraid to understand."

Dr. Frank Bowe
Handicapping America

Photo: Winthrop College

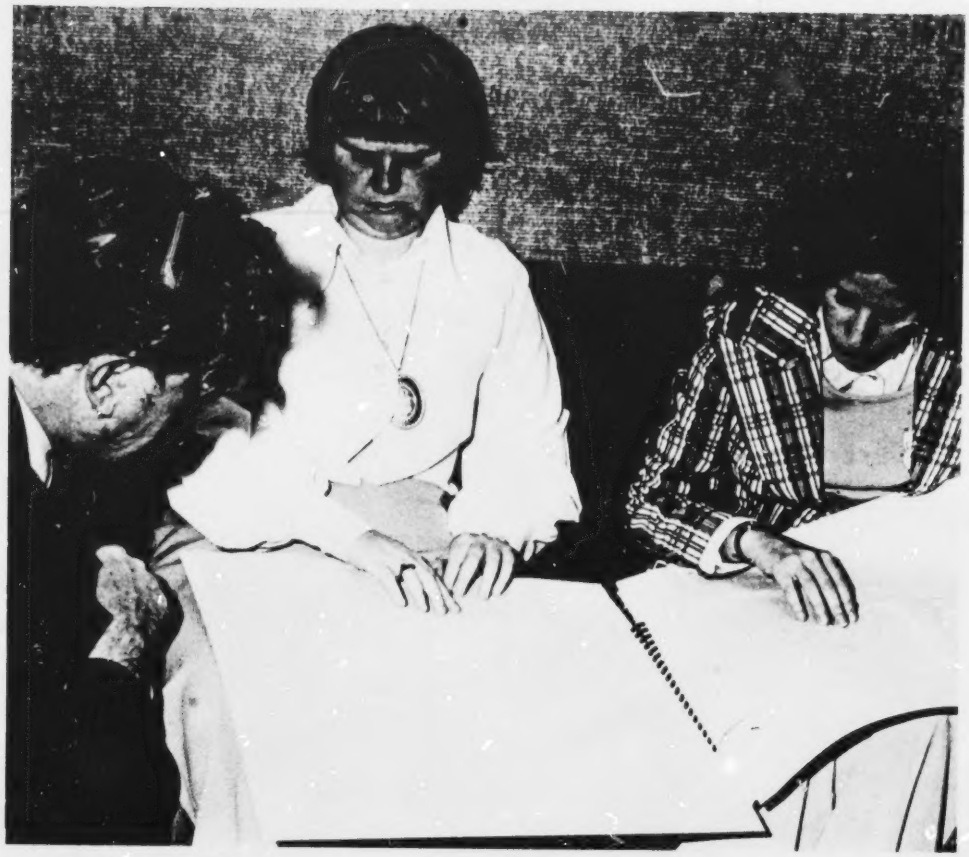
Physical handicaps include height disadvantages, conditions requiring use of a wheelchair and blindness. Candace Smith (left) stands three feet nine inches and copes with problems of which most people are unaware.

In the past, campuses have "handicapped" people by failing to recognize architectural barriers such as steps and too narrow doorways. Attitudes are also responsible for "handicapping" people; too often, we see only the physical limitations and not the intellectual and mental abilities. Overcoming both architectural and attitudinal barriers is one of higher education's greatest challenges.

Section 504 of the Rehabilitation Act of 1973, as amended (Public Law 93-112), promises a new era of equality for handicapped persons by stating, "No otherwise handicapped person in the United States . . . shall solely by reason of handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Campuses throughout the country have been working toward compliance with the Department of Health, Education and Welfare's (HEW's) regulations for implementing Section 504. By eliminating discriminatory architectural barriers and providing program accessibility, colleges and universities are opening doors to career opportunities and fuller lives.

Photo: University of Wisconsin at Stout



Charis Iffland (center) reads a Braille map of Western Michigan University's campus.

Photo: Western Michigan University

"Statistics show that most physically handicapped students work toward careers in intellectual positions," says Joan Stewart, Western Washington University's Affirmative Action Officer. "These positions require more education and we have an obligation to make that education available."

"The average disabled college graduate will pay $30,000 in taxes during his or her lifetime," Stewart said. "With a little over $1 million budgeted for accessibility projects on our campus, it only takes 30 or so people matriculating at Western to essentially repay that investment."

Suffolk University, in studying the problems of handicapped persons, revealed areas of concern to handicapped students. They found that handicapped students need extra time to complete assignments and examinations, that tape recorders would be helpful for transcription of lectures, that handicapped students often experience emotional pressure in order to accomplish assignments on time, that there is some lack of understanding by faculty and students of handicapped persons' problems, that library research presents difficulties, that classroom numbers and posters are sometimes hard to read, that the crowded conditions in cafeterias present difficulties and that transportation is a never-ending problem.

Steps Toward Campus Accessibility addresses many of these problems and demonstrates how campuses have overcome them. Campuses have shown a great deal of ingenuity and dedication to eliminating barriers. APPA hopes this publication will be both a means of recognizing progress campuses have made and of providing ideas and inspiration to higher education administrators in their efforts to meet HEW's June, 1980 deadline for full program accessibility in compliance with Section 504.

Dr. Clark Ahlberg experiences the frustrations of being handicapped first-hand as three men help him negotiate stairs on the Wichita State University campus.

Photo: Wichita *Eagle* and *Beacon*

Becoming Aware

Three able-bodied men took Dr. Clark Ahlberg, President of Wichita State University, on a tour of his campus one morning in 1976. The tour was not a leisurely stroll across campus. Ahlberg made it in a wheelchair in the rain.

The idea was to experience first-hand some of the frustrations handicapped persons face attending classes. The tour began at Wilner Auditorium, where the three assistants hauled Ahlberg up a long, three-section flight of stairs to the second floor. They were red-faced and straining at the end of the first flight.

The tour was suggested by Fred Markham, a Wichita State University journalism student who was born with cerebral palsy and who has been confined to a wheelchair since early childhood. He has been carried up the same flight of stairs by fellow students hundreds of times. Markham designed and led the tour, which he called an "obstacle course ride."

The tour took Ahlberg from Wilner to McKinley Hall on Wichita State University's campus, through a light rain, where he was carried to the top floor aboard the freight elevator. The wheelchair convoy then wound to Ablah Library, where ramps have been installed and elevators are available. However, double doors, designed to conserve heat loss, "trap" a wheelchair, making it difficult to get in and out of the building.

. . .

"I think this morning has been an example of what still needs to be done," Ahlberg said after the tour. "The difference between the modern buildings, which were designed with the handicapped in mind, and the buildings which were not, is obvious."

Simulating Handicaps

Handicap simulation exercises, such as Ahlberg's tour of the Wichita State University campus, are a common part of handicapped awareness activities. They enable able-bodied people to gain an insight into the difficulties handicapped persons face and make people more aware of barriers.

"It's like living in a seashell. Nothing to hear but a dull echo," says Billie Farthing, who became deaf as part of a handicapped awareness day at East Tennessee State University. "Communication is too difficult. After less than an hour, I've vowed not to try to talk with anyone. Decided then they won't be yelling or waving their arms around trying to explain what I can't hear. Maybe I am shouting at them. I can hardly hear myself speak so I don't know.

"I find I am looking forward to the time I can kindly hand my simulated handicap back to Sally Thomas, Student Development Coordinator in the Office of Student Affairs at East Tennessee State University."

East Tennessee State University President Dr. Arthur DeRosier, who spent a morning in simulated deafness, said the worst thing about not hearing was that "it was lonely." He said he didn't realize how much he depended on sound for typing, but laughed that he didn't mind not answering a lot of telephone calls.

Those who completed their experiences with simulated handicaps at East Tennessee State University filled out questionnaires. They wrote that the University Center ramps were too steep; that rest room facilities aren't all made for wheelchairs; that some buildings don't have elevators; and that the sidewalk ramps aren't all placed in good positions to cross the street.

Others complained about the feedback from those around them. "It made me feel like I was a freak or exception because people kept looking at me funny and saying things about what was wrong with me," one person wrote. Another, who had been sightless, wrote that he was "considerably less confident." Some said the experience had made them "very much aware of the problems handicapped persons encounter."

The questionnaires confirmed many of the complaints of handicapped students. "Some of the problems we have pointed out as handicapped students have been restated by those handicapped today," said Greg Morrell, a handicapped student at East Tennessee State University.

Photo: East Tennessee State University

Regenia Boyd assists Bonnie Burchett and Harry Steele down a ramp on the East Tennessee State University campus at they simulate blindness in a handicapped awareness activity.

Persons confined to wheelchairs for a day at Iowa Western Community College found a ramp that meets Federal handicap standards "too steep" and a little scary when they started to roll backwards. Student Personnel Services Dean W. Ralph Morrow said he couldn't get his wheelchair around his desk. So he left it at the side of the desk and used his hands to crawl across his desk and into his desk chair.

Sometimes one handicapped condition implies another, even to the handicapped. Physical Plant Supervisor, Keith Wood, who became deaf as part of a simulation

exercise, was seen chasing a custodian at Iowa Western who didn't know that Wood wanted to talk with him. Wood failed to realize he was deaf, not speechless.

Iowa Western's Employee Relations Director Walter Pyper said he found it impossible to use a pay phone that had pushbuttons, not a dial, during his simulated blindness. Pyper also said that laughter bothered him; he couldn't see situations to share a joke. In one instance, Pyper somehow unknowingly cornered a young woman between a wall and his white cane. There was laughter, he didn't know why and it frustrated him.

Three-Fold Purpose of Awareness Activities

Handicapped awareness activities can accomplish a three-fold purpose, points out Robert K. Sheehan, Director of Budget and Construction at Anne Arundel Community College. First, with attendant media coverage, they assist in bringing to the attention of potential handicapped students or visitors the efforts you are taking or have taken in making the campus accessible. Second, they make students, staff and faculty aware of the problems associated with numerous types of physical impairments through their involvement and participation. Third, handicapped awareness activities provide a nice means, especially if tied in with a luncheon or reception, to recognize publicly the support and assistance of appropriate individuals, groups or funding agencies that have assisted in the program, said Sheehan.

"It's no good to overcome barriers unless the handicapped individuals in the community know about it and feel able to attend classes, meetings or community events at the college. That's part of the reason for hosting a special 'awareness' day," said Anne Arundel Community College President Justus Sunderman.

Handicapped awareness activities consist of many different kinds of events, limited only by the imagination of sponsors and participants. For example, some highlights of a handicapped awareness week held by the State University of New York (SUNY) at Binghamton were performances by a children's theater company featuring actors with and without handicaps; performances by a combo of blind musicians; a wheelchair basketball game; a blind vs. sighted wrestling match; handicap simulation activities; and workshops on employment, employers and handicapped persons.

Some of SUNY at Binghamton's more successful programs enabled participants to focus on "social" as well as physical barriers, said Barbara Jean Fairbairn of the campus' Office of Programs for Students with Disabilities. As an example, she recounted how students who spent a day in wheelchairs noticed that "people tend to walk behind you, even when they are not pushing you, so that you have to look over your shoulder if you want to carry on a conversation with them." Or how students

Faculty and community members of Iowa Western Community College learn about being handicapped through simulations of blindness and deafness.

Photo: Iowa Western Community College

Photo: Iowa Western Community College

who simulated blindness by spending the day blindfolded noticed that people "tended to leave you out of the conversation, as if you weren't there."

Displaying Aids and Equipment

Several campuses included displays of aids and equipment for handicapped persons as part of handicapped awareness activities. Indiana University at Bloomington displayed comparative models showing how facilities are normally constructed and how they could be built to accommodate handicapped persons.

The models included telephone booths, water fountains, rest rooms and ramps. Wheelchairs at the display enabled visitors to experience first-hand the difficulties that people in wheelchairs confront daily. The display was constructed at the School of Architecture at Ball State University.

Western Michigan University featured a display of aids and equipment for handicapped persons during its handicapped awareness days. Among the equipment being demonstrated as aids for the visually handicapped were a Perkin's Braille Writer, a Braille typewriter; and a Speech-Plus Calculator, a small talking calculator.

Susan Wear, a Clinical Supervisor of Audiology at Western Michigan's Speech and Hearing Clinic, demonstrated the use of a sound level meter. She described the unit as a flashing light system hooked up to a sound level light meter. "It primarily indicates problems of vocal intensity; it's sort of a visual biofeedback system," Wear said.

Another display featured custom-made orthotics and prosthetics, braces and artificial limbs.

Sensitivity Workshops for Able-Bodied People

Handicapped awareness days are not the only means of developing awareness of problems faced by various handicapped persons. Some campuses have conducted workshops, panel discussions and courses designed to make persons aware of the special needs of persons with physical handicaps.

The University of Texas at Austin conducted a handicap sensitivity workshop for members of its recreational sports staff. The workshop focused on new sports being developed for handicapped individuals, old sports that can be adapted for handicapped persons and resources available to the recreational sports staff for the development of new programs, in addition to the standard simulation exercises.

In the simulation exercises, the participants were physically restrained so they were without the use of some part of their bodies, just as handicapped persons are.

Those in the orthopedically impaired simulation tried to button sweaters, brush their hair, use the telephone and turn a door

Photo: University of Texas at Austin

A member of University of Texas at Austin's recreational sports staff tries to turn a locked door knob with a key without using her fingers or thumbs as part of a handicap sensitivity workshop.

knob while their thumbs were taped to their fingers.

Blindfolded participants tried to identify small objects, such as a paper clip, aspirin bottle and pecan, by using their senses of touch and smell.

Those who pretended to be wheelchair-bound experienced the difficulty of pushing their own weight in a chair, of opening doors and maneuvering their chairs through doorways, of entering elevators and trying to reach the emergency telephone, and of drinking water from a water fountain in a seated position.

"I got a face full of water," one participant said when recalling that experience.

Steve Currier, Coordinator for Services for Handicapped Students who directs the sensitivity workshops, said most of the participants found they could manage the tasks assigned them, but had to adapt their unleashed senses and abilities to accomplish them.

Charles Moorleghen, Southern Illinois University at Edwardsville Physical Plant Director, leads a group of wheelchair "tourists" across the campus mall during a handicapped awareness day.

"They found they could use their teeth, chest and the base of their hands," he said of those in the orthopedically impaired simulation.

The purposes of such an experience are many. Participants not only feel the frustration themselves of trying to walk a corridor they can't see, but find, in the end, it is possible.

"Five years ago, I was very protective" of handicapped individuals, said Carolyn Hewatt, a Recreational Sports Coordinator for Handicapped Activities at the University of Texas at Austin. "I would have had them in special classes and activities. Now I know they don't need the protection I was wanting to give."

The problems of one severely handicapped student at Radford College touched off a special workshop program. The workshop dealt with problems such as blind persons' inability to read written tests and classroom assignments and the need for professors to make reading assignments far enough in advance so taped recordings can be ordered. Ron Speier, Radford's Assistant Dean of Students, who coordinates programs for handicapped persons, briefed faculty members on ways they could help handicapped students cope in the classroom and on special services available, such as recordings for blind persons and dictating and tutorial services.

"It (the workshop) also helped make people more aware of the social problems involved," Speier said. He noted that handicapped students often have trouble socializing with other students because they are self-conscious about their handicaps.

Workshops on Environmental Barriers

Virginia Polytechnic Institute and State University has developed a workshop series to teach professionals, public officials and others new methods for dealing with environmental barriers and other problems in the daily lives of physically handicapped

Photo: Southern Illinois University at Edwardsville

persons. The workshops are part of a project entitled "Barrier Free Environments: the Family and the Community."

One part of the workshop is for persons in the social, family and rehabilitation service fields. It takes an interdisciplinary approach to barrier-free living and stresses such topics as family adjustment and management for independence of handicapped persons in the home, special clothing needs of handicapped persons and special food and nutrition needs.

Another part of the workshop, designed for persons in the design and building professions, focuses on the issue of design requirements for barrier-free environments, particularly building codes and standards, costs, products, implementation, site planning and design for schools, other institutions, parks and recreational facilities.

Course for Academic Credit

Wichita State University has added to its curriculum a sociology course entitled "Social Consequences of Disability." The course is primarily directed toward students in health-related professions.

"It's important for the able-bodied to understand that a person with a disability is a person — has to deal with the same problems everyone else deals with, plus other minor inconveniences," said Nancy Brooks, who teaches the course. "The more they know a disabled person, the more that disability recedes."

Students in the course personally experience handicaps through simulation exercises, taking field trips to work settings for handicapped persons and hearing guest speakers who are handicapped.

"They learn such things as which fire exits could be used by people in wheelchairs and learn about being stared at," Brooks said. Able-bodied persons often believe they "have" to help a handicapped person, when sometimes they only get in the way. Instead, Brooks counsels, the able-bodied person should first ask if he or she can be of assistance and let the handicapped person specify how he or she can help. Sometimes it is best not to help at all, she said.

Photo: State University of New York at Binghamton

Able-bodied and handicapped members of the Rainbow-Time Children's Theater Company perform "How the Strawberry Lollipops Were Saved, or Sticky Fingers Foiled Again."

Actors Unmask the Handicapped

The Rainbow-Time Children's Theater Company tries to "desensitize the public" in its performances of children's plays. The group, sponsored by Broome Community College's Department of Theater, Golden Hall Productions and SUNY at Binghamton's Association for Disabled Individuals, is a budding company of able-bodied and handicapped persons who are putting together plays for children and recently put on their first performance for a group at IBM.

Although the theater company is interested in stimulating its audiences, another underlying theme comes through as the actors joke and go through their lines together. As they get into their roles, handicaps seem to melt away as self confidence and the sheer fun of self expression take over.

Jean Fairbairn, the company's producer, explained that the actors first decided to go with children's theater because she was told that adult audiences would not be tolerant of performances by a mixed group of handicapped and nonhandicapped actors, that they "would not sell."

"I was very anxious to see theater not just by handicapped people, but more mixed theater," she said. "I felt there was a real lack of opportunities for disabled people in theater. Theater often seems to see things in terms of the body beautiful, whatever that means.

"When the Rainbow-Time troupe performs, the audience sees bodies in terms of the theater beautiful."

Taking Time to Listen

In developing plans for accessibility on campuses, it is important to take time to listen to the persons who are most affected by barriers — physically handicapped students and faculty members.

Various campuses have set up mechanisms for encouraging input and involvement of handicapped persons. Many have set up Offices for Disabled Students, appointed Section 504 compliance officers and formed committees of persons interested in preparing the plans for overcoming barriers.

On some campuses, physical plant department members meet regularly with handicapped students. At the University of Hawaii at Manoa, representatives of the Facilities Management Department meet at the beginning of each semester with handicapped students and try to eliminate accessibility problems each individual student might have in pursuing an academic career.

Individualized Needs Surveys

Tennessee Technological University has started an "individualized" program to meet the needs of handicapped students and employees, said Dr. David Larimore, Executive Assistant to the President and Chairman of the university's Rehabilitation Committee. Students are surveyed immediately after they are accepted and asked to report any handicaps for which special arrangements need to be made. Students who report a handicapping condition are interviewed by staff members in the Division of Student Services to find out what their special needs are. This procedure helps accommodate handicapped persons while avoiding preadmission inquiries prohibited by HEW's Section 504 regulations.

University staff members also consult with handicapped students about their class

A student at Indiana University shows physical plant employees where curb access ramps are needed for wheelchair travel.

Photo: Indiana University

schedules to determine if any classes are planned for inaccessible buildings or classrooms. If they are, adjustments can be made. The simplest solution in most cases may be to move the class to another room that is accessible. In other cases, physical changes in the building may be made, or arrangements for transporting the student could be worked out.

This individualized approach of finding out who the handicapped students are and what their particular needs are seems to work better than trying to anticipate every possible need that could occur, Larimore said.

Arrangements are also made for special medical care or mechanical aids, dormitory room renovations counseling, tutoring, interpreting or other needs. Tennessee Tech's employees also have been surveyed to determine whether they have handicapping conditions for which special arrangements need to be made.

Hiring Handicapped Consultants

East Tennessee State University secured a consultant, Jody Gilreath, who is a paraplegic. "Jody will be testing the practicality of projects and how well they comply with Federal regulations," said Dr. Jerry L. Gehre, Assistant Director of Internal Research Systems and Planning.

Gilreath and Greg Morrell, another student confined to a wheelchair, have worked with Gehre's office to begin planning projects such as curb cuts, parking spaces for handicapped persons and new ramps. They also helped establish a priority system for the university.

"I think it benefits the university to use handicapped persons in consulting capacities," said Morrell, who is Vice President of the East Tennessee State University Student Government Association. "They're more sensitive to the issues and how to handle them. For instance, they are better informed on where curb cuts are needed. It would be hard for an 'expert' to come in and place them — they might look nice and go well with the general flow of walking traffic, and yet be totally unsuited for wheelchair traffic."

"Some rules to follow include avoiding hills whenever possible and taking the straightest route between two points," he adds.

A System for Problem Solving

University of Arkansas at Little Rock has developed a system for dealing with compliance problems. The structure begins with the Coordinator of Resources for the Disabled, who has a centrally located, very accessible office. All problems are reported there so that students and employees are met with an initial, "Yes, you have come to the right place." This seems to create an atmosphere of positive expectations that is beneficial to solution of problems.

The philosophy behind the development of this position was to place an ombudsman and advocate in a visible "friendly" location while keeping the responsibility for accessibility decentralized in the individual university departments. Since the Health Services Office was already a congregating point for many handicapped students and the nurses had good rapport with students and faculty, this office was chosen as the central location and the Co-director of Health Services became the Coordinator of Resources for the Disabled. The coordinator is responsible for publicizing the services and resources available on campus and making people aware of their responsibilities, as well as supporting them as they try to solve problems.

The range of problems identified is broad. Follow-up and further consultations are usually necessary for many of the problems. On the other hand, an icy ramp or overhanging tree limb may be eliminated with a call to the physical plant department from the coordinator. As word has spread of the need to report hazardous conditions and where to report them, turn-around time between occurrence of hazards and resolution time has been greatly reduced. Now, faculty members call to report misuse of elevators by construction workers or bent grates in sidewalks before these hazards have interfered with wheelchair travel. Academic problems are also reported to the coordinator.

Involving both handicapped and able-bodied persons in planning groups can help campuses efficiently eliminate architectural barriers and overcome some attitudinal barriers. As the University of Arkansas Committee on the Needs of Disabled Students discovered, one major job is educating people to the needs of handicapped students before a problem arises.

A Lane Community College student looks out over the campus' network of ramps and bridges.

Photo: Lane Community College

Matching Places to People

Architectural accessibility involves features essential for handicapped persons to enter and use a building. Accessibility requires careful consideration of the needs of various types of building occupants; in essence, it necessitates matching places to the people who use them, instead of requiring handicapped persons to overcome barriers.

Ramps, elevators, chair lifts and automatic doors are all important features of accessible buildings. Many campuses have found such modifications to be essential to achieving program accessibility in compliance with HEW's Section 504 regulations.

Ramps and Accessible Routes of Travel

The traditional stairs that make most older buildings inaccessible to persons in wheelchairs and on crutches are a basic problem faced by many campuses. Ramps and lifts may be added to entrance areas in order to enable handicapped persons to enter. Ramps may also be necessary where hilly terrain makes travel between buildings difficult.

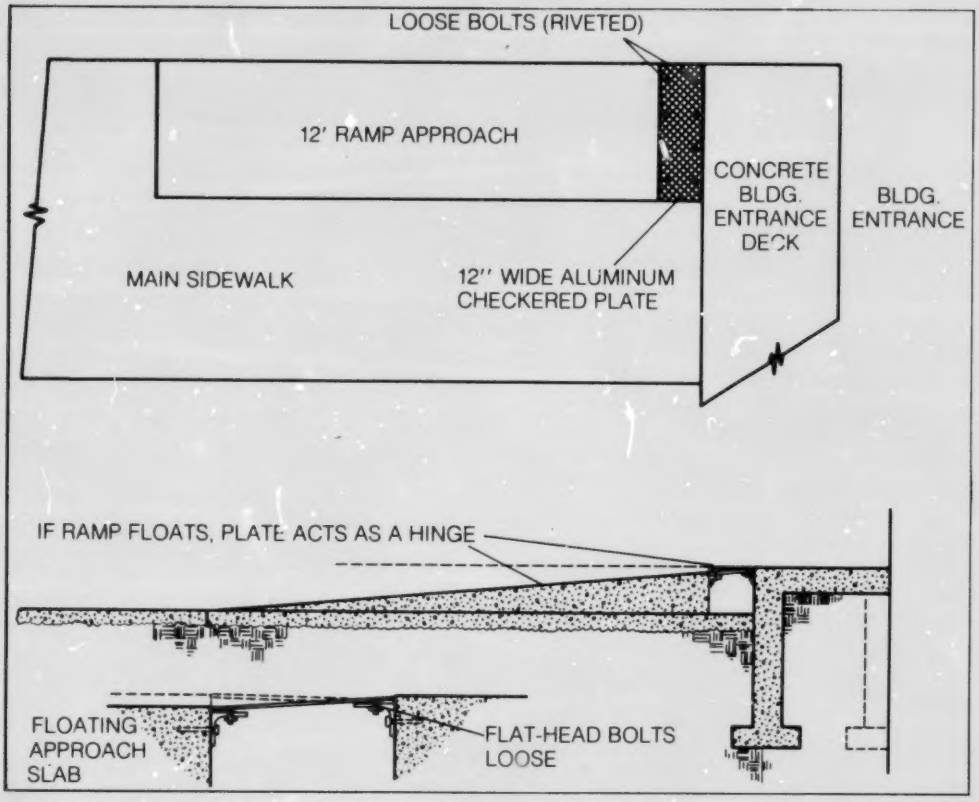
While some campuses have added ramps to existing buildings, some campuses built in recent years incorporate ramps into a distinctive campus design. For example, accessibility is an obvious consideration of Lane Community College's network of ramps and bridges between buildings.

Bridges or walkways raised above ground level to connect adjacent buildings can make travel for both handicapped and able-bodied people convenient and interesting. King's College illustrates this in a walkway connecting its student center and a high-rise dormitory. The college is compactly built on a nine-acre center city campus.

The University of Calgary has constructed a distinctive mall in the core of its campus. The area used to contain sidewalks resembling airfield runways with steps to the buildings they served. One of the criteria for the new mall provided that "all outside stairways be eliminated by the grading of sidewalks to provide ramps required by the building code for those who are wheelchair bound," said V. Swamberg, University of Calgary Planning and Construction Officer.

Dealing with hilly terrain sometimes poses special problems for campuses. The University of Kansas has dealt with this by installing entrances at the side of facilities in which the main entrance is at the half level. This is often made possible because the terrain at the side location intersects one of the floor levels of the building. In addition, the university has provided grade level entrances at the lowest floor of some buildings whereby persons in wheelchairs can enter facilities at the lower level of the campus, ride an elevator to the floor on level with the upper part of the campus and leave the building at that point. This solution makes it possible for handicapped persons to travel from one level of the campus to the other without seeking transportation or other methods for surmounting the obstacle of the hill, says Allen Wiechert, University of Kansas Director of Facilities Planning.

A 60-foot reinforced concrete bridge will allow accessibility to a dormitory being built on a site at Bryant College that slopes sharply at a 36 percent rate from the street grade to the first floor. The bridge will enable handicapped persons to enter a central "core" lounge area on the second level. The dormitory will also have two interior ramps that will make the second level accessible to

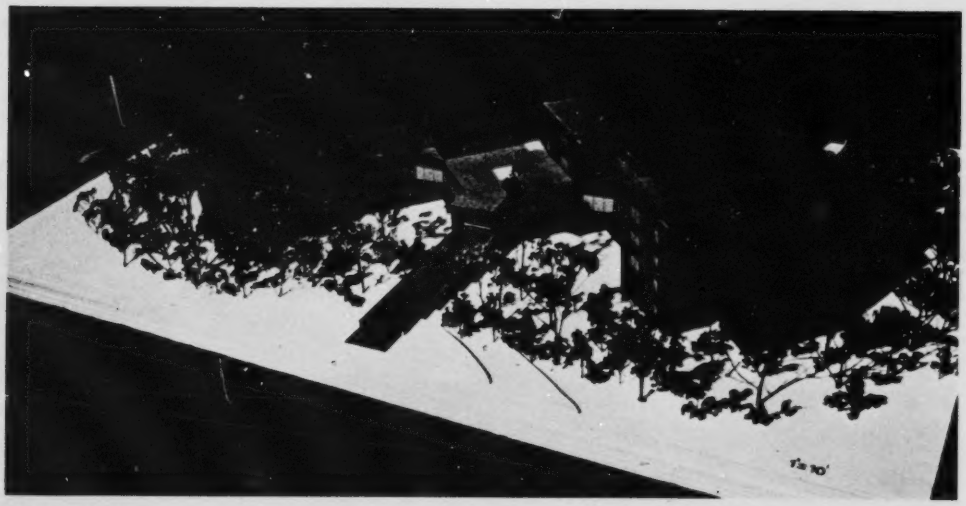


Model drawings depict Augustana College's solution to the problem of eliminating costly footings in the construction of ramps.

Drawings: Tom Wiese, Augustana College

handicapped persons and more convenient to able-bodied persons. The new dormitory will be ready for occupancy during the 1979-1980 academic year.

The Director of Physical Plant at Augustana College, Tom Wiese, has come up with a unique method of eliminating costly footing in the construction of ramps. His method provides for a 12-inch wide aluminum checkered plate connecting the ramp approach and the concrete building entrance deck. The aluminum plate is installed with large riveted flat-head bolts, which allow the plate to act as a hinge when freezing and thawing cause the concrete to rise and fall. The hinge effect of the plate eliminates variations in concrete levels and prevents bumps when persons in wheelchairs use the ramp to enter a building.



A bridge facilitates access to a dormitory built on a site at Bryant College that slopes at a 36 percent rate from the street grade to the first floor.

Photo: Bryant College

Accessible Entrances

A major problem for anyone in a wheelchair is opening a door without assistance and getting the chair through the door without creating a scene. On traditional doors, a slick, stainless steel kick panel designed by the Cerritos College Maintenance, Operations and Transportation Department can help alleviate such problems. The panel stretches the width of the door and is about ten inches high with a rolled top to prevent cuts. Mounted at the base of the door, the stainless steel panel has a natural springiness that, when kicked or hit hard with the front of a wheelchair, literally springs the door open long enough for the wheelchair to be rolled comfortably out the door.

A side benefit of the kick panel is that hand trucks used for making office deliveries have the same effect on the panel and persons making deliveries to offices have a much easier time making their rounds.

The doors at Cerritos are aluminum-framed glass doors with the glass slightly recessed from the frame. The kick panels protrude only about two inches from the door frame and go unnoticed by most people. The kick panels have been installed on every door at Cerritos College at a cost of about $3 each.

Automatic doors and electronic door openers make entrances accessible to persons with mobility problems. Florida Atlantic University has installed a self-opening, push-button door, and Colorado State University is experimenting with timed, electric door-opening devices within easy reach of wheelchairs. Southern Illinois University at Edwardsville has installed automatic doors at the entrances of some of its classroom buildings. These doors are sometimes a single door wide enough to permit entrance and egress by persons in wheelchairs. In other cases, door opening devices are added to double doors.

Electrically or pneumatically operated doors can also help overcome the problems of door closures that are too strong and vestibules that trap people. Wichita State University has recommended such automatic doors in all new buildings because winds in south central Kansas frequently exceed 50 miles per hour and door closures of sufficient strength must be provided to

Photo: Southern Illinois University at Edwardsville

Photo: Cerritos College

The natural springiness of the Cerritos College kick plates (below) springs doors open long enough for a wheelchair to pass through comfortably. An automatic door at Southern Illinois University at Edwardsville (above) makes entering buildings easy for persons with mobility handicaps.

Photo: Florida Atlantic University

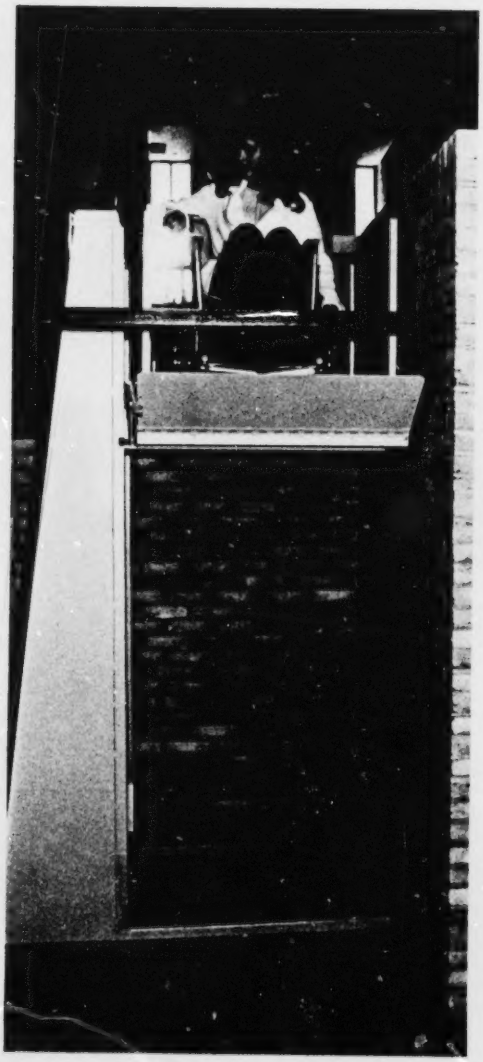


Photo: Anne Arundel Community College

Access to entrances and upper floors is essential for handicapped students. A Florida Atlantic University student (left) uses a self-opening, push-button door at the main entrance to the University Library. At the right, Anne Arundel Community College's "porch lift" helps handicapped persons overcome stair barriers.

protect individuals from wind-driven doors and to avoid excessive damage to doors, frames and hardware.

Another part of Wichita State University's "environmental trap" involves the frequent sub-zero periods of winter and the hot, dry summer months. To overcome these problems, most campus buildings have vestibules. A vestibule is a simple airlock, but it is also a wheelchair trap if ample distance is not provided between doors.

Overcoming Stair Barriers

Elevators are the typical means of overcoming stairs barriers to make upper floors of buildings accessible. However, vertical lifts offer an alternative where an elevator is not feasible. Anne Arundel Community College has installed seven lifts, two located outdoors and the others located inside campus buildings. The lift used is called a "porch lift" and is designed for all-weather or exterior use but is equally adaptable indoors.

The porch lifts are electrically powered, with a ramp linked to the platform that serves not only as an access/egress ramp in the loading position, but also as a protective lip when the platform is raising or lowering. The user simply inserts a key and operates the up/down toggle switch to move the device. Call/send controls are mounted in accessible locations at the upper and lower levels, so that the lift can be called to the level on which it is needed. "Over the step" ramps are available where needed to provide a level ride to or from the lift. Suitable railings come with this ramp, as well as the platform. Though designed for an unassisted person in a wheelchair, the device is

Photo: Dalhousie University

An outdoor wheelchair elevator (below) facilitates wheelchair access to Dalhousie University's history house (above).

perfectly suitable for the individual with heart or respiratory problems, the football player on crutches or the technical assistant moving projector carts to another classroom.

Of the seven installations at Anne Arundel Community College, two of the installations required no structural modification at all, only the electrical tie-in. On two others, the modification involved only the removal of a portion of waist-high brick wall. On the remaining three installations, which had to be inset to avoid blocking corridors, the structural modifications were more extensive and costly. Anne Arundel Community College found that the lift, including installation, cost approximately $2,400 per unit where structural modifications were not necessary. The two units located outdoors have had no functioning problems during the months they have been in use and exposed to the weather, reports Robert K. Sheehan, Director of Budget and Construction.

An outdoor wheelchair elevator enabled persons in wheelchairs to enter Dalhousie University's history house. The university has several houses on campus that contain the offices and conference rooms for certain small departments and schools. In many cases, space around the buildings is just not

Photo: Dalhousie University

enough to install proper ramps, and snow and building codes make it difficult to install elevators, says Planning Director Jim Sykes. The wheelchair elevator is located on the side of the front porch and can raise a wheelchair from the ground to the porch, avoiding a flight of stairs located at the outside front of the house.

Floating Floor Elevator Lobby

Access to upper floors of Shea Auditorium at the William Paterson College of New Jersey was provided through the introduction of a "floating floor" that solved the problem of finding a location where an elevator would not interfere with circulation at any building level. This complicated building, designed as a performing arts center, contains many levels and was found to provide no location where an elevator would not interfere with circulation on at least one of those levels. Careful study led to the selection of a location that permitted the construction of the elevator with a minimum of modifications to the existing structure; unfortunately, the elevation of the newly formed "elevator lobby" at one level was 13 inches lower than the seating area to which access was desired. It was decided that since space conditions precluded the introduction of a ramp, it would be necessary to raise the elevation of the lobby. Employing normal methods would have added excessive weight to the existing structure and would have entailed the forming and pouring of concrete and new floor finishes.

The "floating floor," similar to the type normally used in computer rooms, overcame the problem. Pedestal supported and prefabricated, this floor is extremely light, is easily adjustable to achieve proper elevation and required no finishes other than those provided as part of the flooring system. This has proven successful and represents a simple solution to an unusually difficult problem, at a cost no greater than that of conventional construction, according to William Duffey, Director of Facilities.

A More Durable Dot

Most Braille signs, including Braille elevator control panel plates, are embossed aluminum or plastic that have little resistance to wear and vandalism. Sharp, distinct dots that have not become rounded due to inferior production or wear are a prime factor of mobility independence for visually handicapped persons. Charles Forman, a Senior Laboratory Mechanician in the University of California at San Diego's Machine Shop, uses a chemical milling process to etch Braille dots on brass plates that produce sharper, more durable letter and number characters. A black matte finish is applied to the brass plates to aid

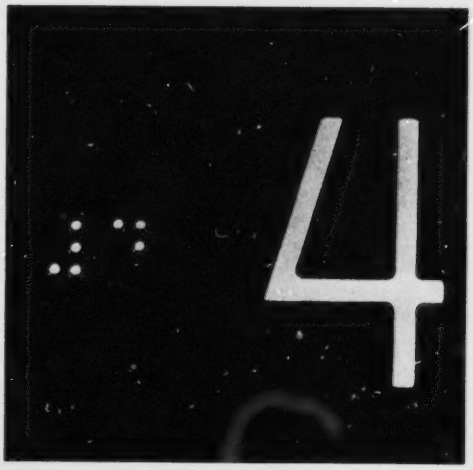


Photo: University of California at San Diego

A chemical milling process used in the University of California at San Diego's Machine Shop produces durable signs containing raised numbers and Braille characters.

Photo: Southern Illinois University at Edwardsville

Braille markings for visually handicapped persons have been placed in the elevators at Southern Illinois University at Edwardsville.

partially visually handicapped persons in seeing the large raised characters that accompany the Braille dots. This process may help alleviate the problems other campuses are having with plastic stickers being torn away.

Wheelchair Storage Facility

Matching places to people sometimes means initiating some unique projects in order to make people more comfortable in their surroundings. California State University at Northridge renovated an area to provide handicapped students with an opportunity to go somewhere with their wheelchairs between classes and to provide a facility where the students can leave their electrically powered wheelchairs overnight. The "wheelchair storage facility" is provided with complete heating and ventilating systems and has sufficient electrical outlets to recharge 12 wheelchairs. The facility also provides a study area for students confined to wheelchairs. Special vehicle access to the facility has been provided so that students who want to load near the facility can be readily accommodated.

Jack Hug, Director of Plant Operation, says many students like to leave their electrically operated wheelchairs on campus and use the conventional chair off campus and when not attending classes. The storage facility provides a place to store wheelchairs and enables individuals to be transported in a vehicle without having to load and unload the wheelchair each day.

This bridge, or "tower," contains ramps and an elevator. It combines two Colorado State University buildings physically and aesthetically combines the architecture of each.

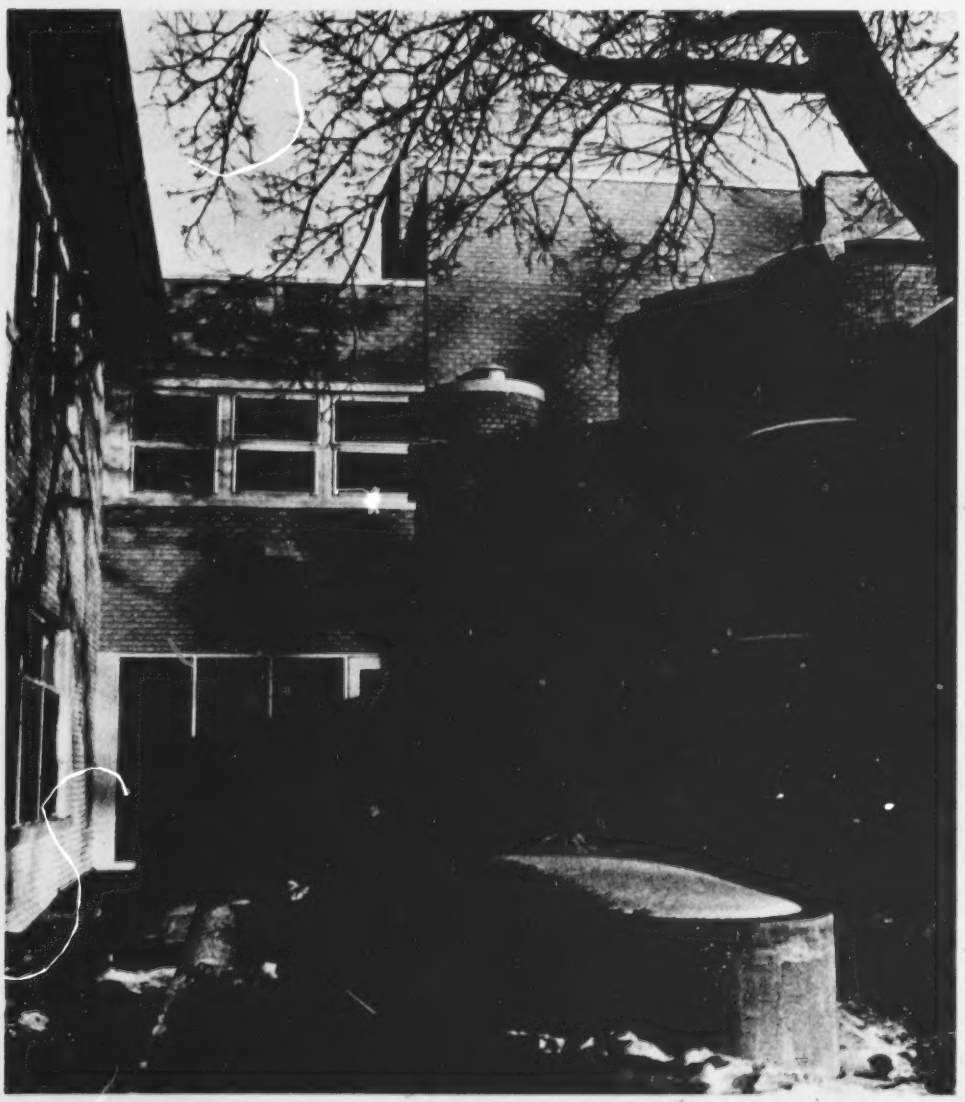


Photo: Colorado State University

Reference Points for Blind Students

The University of Alabama is currently considering ways to make campus travel easier for blind students by establishing additional "reference points" for them to use in walking to destinations on campus. The Student Services Building currently is the major reference point for blind pedestrians, and blind persons pace their walking from this point. However, one such point is inadequate and students sometimes get lost. The University is considering the possibility of setting Braille studs in the concrete curb grooves or establishing Braille markings on signposts on corners that will inform blind students of their exact location and will provide additional and more convenient reference points.

Photo: University of Northern Iowa

A physical plant worker at the University of Northern Iowa works on a curb cut for wheelchair use.

Testing Trial Prototypes

Installing modifications for accessibility purposes can be extremely costly. In order to make as certain as possible that a given retrofit installation will best solve a problem, Wichita State University works in wood to produce a functional trial prototype. Staff and students can evaluate it, monitor its use and make suggestions for improving it before the modification becomes a permanent feature. The prototypes are low in initial cost, easy to modify and can rapidly be set up and torn out.

The university has found substantial reasons for a trial period and design approach. For example, the wheelchair viewing platform at the athletic stadium proved unsatisfactory and was scheduled for further modifications. The structure, put in place before the start of the football season, seemed adequate when installed. The first game quickly dispelled its usefulness, when players leaping to their feet, jumping a lot and spending nearly no time in a sitting position on the bench obscured the viewing platform's line of sight. Modifying the height, deck space and orientation to the playing field would have been considerably more expensive had the structure been of permanent material.

Finding Economical Labor Sources

For many colleges and universities, modifications may be difficult to implement because adequate funding is not available.

Broward Community College identified $300,000 worth of needed modifications, not including labor costs. Then college representatives worked with the Broward County Minority Builders Coalition, Inc. to implement some of the modifications. The Coalition was funded through BETA, formerly known as the Broward Manpower Council, to provide training in the construction arts for unemployed persons. Personnel from the Coalition, supervised by college representatives, accomplished the less complicated physical renovations such as beveling out thresholds to doors to alleviate the problems of persons attempting to mount the thresholds in wheelchairs. The college furnished all materials and the Coalition furnished the labor necessary to accomplish the renovations. These engagements were handled on a formal, contract basis.

David Boyd, a Northern Michigan University consultant on matters relating to handicapped persons, points out that campuses should bear in mind the capabilities of departments that build in the course of business, such as the set carpenters of drama departments.

Arizona State University used a similar principle by employing a blind student to make Braille tabs for elevators and doors, which provided the needed signs at a low cost. The Braille tabs identify classrooms and rest rooms and are uniformly placed to the left of doorways.

Photo: Wichita State University

Photo: Wichita State University

Photo: Wichita State University

Bridging Communications Gaps

Learning to communicate with handicapped persons is a challenge that must be met if programs are to be fully accessible. Communications gaps sometimes occur when dealing with persons whose hearing, sight or speech is impaired. Sometimes, problems arise because of lack of knowledge of sign language, Braille or other means of communication. Other times, misconceptions and prejudicial attitudes may bar communications.

Promoting Academic Independence

Most people take reading their mail in private for granted. But for blind persons using an Optacon or Kurzweil Reading Machine, it is a valued opportunity.

Instructional aids for handicapped persons are often a key to independence and achievement. In particular, they enable people to communicate more effectively and efficiently with each other.

An Optacon, a machine that translates printed material into vibrating letters that can be felt with one finger, enables a blind person to "read" a regular book, newspaper or magazine. Contact the U.S. Office of Education for information on a loan system available to blind students who learn to use the Optacon.

After receiving an Optacon donated by a local Lions Club, Winthrop College sponsored a workshop to train people to use the machine. Persons who successfully completed the workshop are qualified to teach blind students to use the Optacon, making their schools eligible to use the machine without cost.

Another aid for blind persons is the Kurzweil Reading Machine, which is a computerized reader that reads aloud from printed material. University of Colorado received a pilot model for testing before its use by any other university in the country. The reading machine has been called "the most important advance for blind people since the development of Braille."

Visualtek, a closed circuit system that magnifies print and any object placed beneath the camera, can greatly increase visually handicapped students' independence in reading and writing. The unit consists of a movable viewing table, a camera and a closed circuit television screen. Print placed on the viewing table or writing done there is magnified up to sixty times its original size and projected on the screen. Users can adjust the magnification level, contrast level, focus and width of the area viewed. The visual screen can be adjusted to produce both negative and positive images. Negative images, or white images on black backgrounds, are easier for many visually handicapped persons to distinguish, says Wichita State University Assistant Librarian Cam Gentry.

Wichita State University has a variety of instructional aids available to students, including the Visualtek and an Audio Reader, a radio reading service for visually handicapped persons. Wichita Audio Reader/KMUW-FM features daily readings from the Wichita *Eagle* and *Beacon*, community interviews, in-depth reports of late-breaking national and local news, advertisements and job openings. The Audio Reader was used to broadcast the Ice Capades live show at the Kansas Coliseum.

About 400 to 450 Wichita homes are equipped with special receivers provided by Audio Reader.

Other aids for visually impaired persons include the Aud-a-dexer, which indexes tapes with a tone placed on the tapes; the Audicator, which senses light, then gives a tone whose pitch depends on the amount of light; the Speech-Plus Talking Calculator, which announces all entry keystrokes and answers; and the Copycorder, which records, plays, edits and condenses tapes. The University of Wisconsin at Madison provides this equipment in its libraries' low vision reading rooms.

A West Virginia University faculty member, Dr. I.M. Neou, has developed several instructional aids, including a Braille scientific calculator, an electromechanical Braille verifier for blind persons and Bo the Blinking Dog to help children with hearing impairments.

The Braille verifier enables a blind typist to check for typing errors by touch reading each typed line on a Braille display. The verifier attaches to a standard typewriter.

The Braille scientific calculator has Braille symbols on its keyboard. To read entries and calculations, a Braille readout can be produced by pressing a "read" button. The calculator can add, subtract, multiply, divide, and do trigonometric functions, logarithms and square roots. It has four memory functions.

Dr. Neou developed Bo the Blinking Dog and Bo the Big-Eyed Bear to help deaf preschool children who are learning to speak. As the children's voices get louder, Bo's eyes blink or get bigger. These instructional aids are used at West Virginia University's Speech and Hearing Clinic.

Photo: West Virginia University

I. M. Neou (left), professor of Mechanical Engineering and Mechanics at West Virginia University, and two of his graduate assistants examine the electronic components of a Braille verifier they have developed. The verifier, which can be used with any electric typewriter, enables blind people to proofread their typed materials and make corrections without assistance.

Audiovisual Presentations

One approach to bridging communications gaps includes audiovisual materials explaining the needs and rights of handicapped persons. The State University of New York at Plattsburgh prepared a synchronous slide/tape presentation consisting of 76 slides and 2,000 words which ran for approximately 12 to 15 minutes. This presentation was entitled "This is 504."

The presentation explains the Section 504 regulations and describes how they affect handicapped students. It describes steps taken by the college and studies that have been made by the Section 504 Self-Evaluation Committee. It indicates, in pictures and words, changes that will be made and what these changes will mean.

Southern Illinois University at Edwardsville produced a video presentation directed to able-bodied persons and aimed at informing and increasing public awareness of the potential of handicapped per-

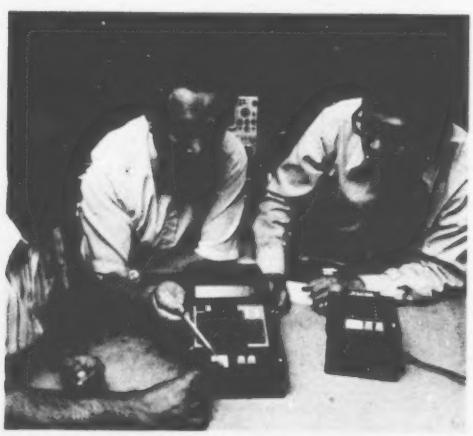


Photo: West Virginia University

Photo: West Virginia University

I. M. Neou points to the Braille readout of the scientific calculator he developed (left). Robert Stilwell of West Virginia University (right) reads a newspaper with an Optacon by holding the camera of the Optacon over the newspaper with his right hand and reading the tactile reproductions of the letters with the index finger of his left hand.

A friendly mascot graces the front of a "Handicapped Students Information" booklet prepared by the Office of Student Affairs at the University of Texas at El Paso.

sons. The tape, "Barriers: A Way of Life," focused on the removal of architectural and attitudinal barriers to handicapped persons. It followed up a seven-part radio series that was aired over the campus radio station. Topics of the radio programs included introducing the handicapped student movement to the public; discussing the latest findings in diagnosis, treatment and research concerning handicapping conditions; listing services and benefits available to handicapped persons by service-oriented agencies; discussing educational and employment opportunities; and pointing out architectural barriers in public buildings and housing.

James A. Kutsch, Jr., a blind faculty member at West Virginia University, has developed two computer programs that promise to help other students learn how to use computers and to prepare for tests.

Campus Accessibility Guides

Many institutions have produced handbooks and other printed materials to help orient handicapped persons to campus facilities, services and programs. Among these is "The Enabler," a 5-1/2" x 8-1/2", illustrated handbook produced by the University of Minnesota. It includes a guide to resources for assistance and information on nearly every aspect of college life, including academics, student services, and cultural and recreational activities. It explains the requirements of various majors and how programs may be altered to accommodate handicapped persons.

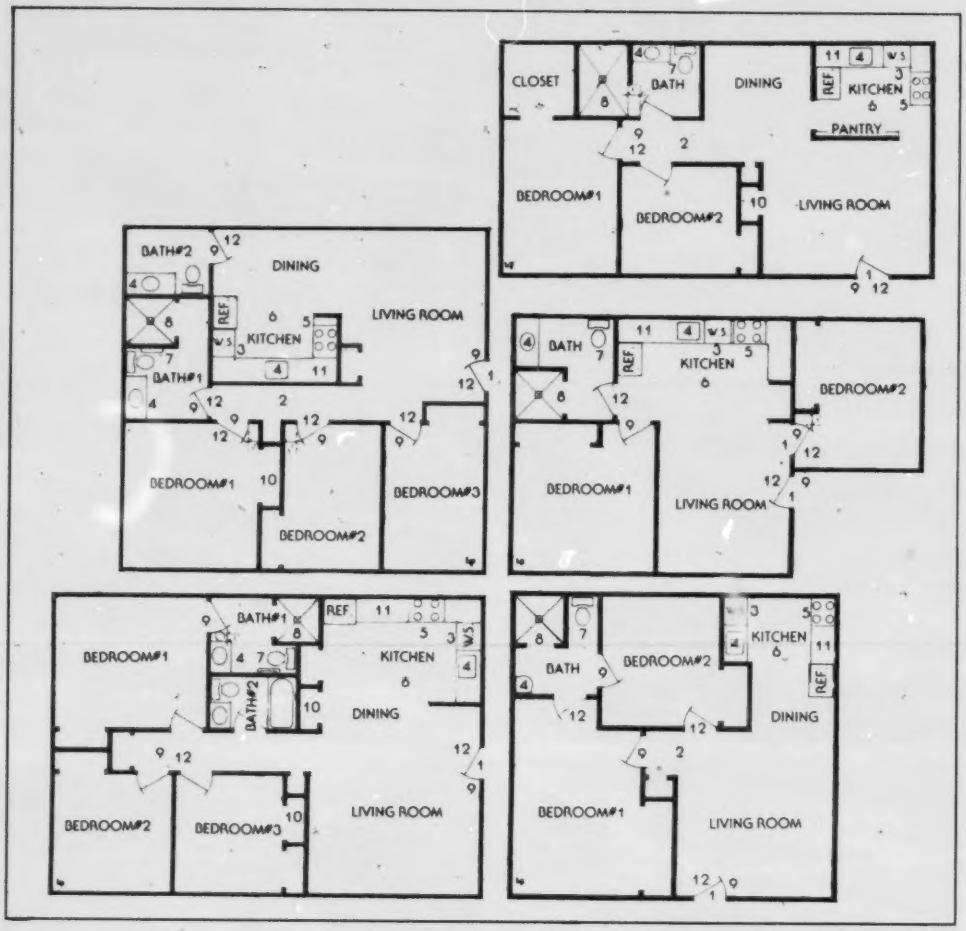
Portland State University's "Wheeler's Guide" serves several purposes. In a spiral notebook format, it provides information about accessibility that is specifically needed by persons in wheelchairs. It also contains access maps and floor plans of campus buildings, with a verbal description of locations of accessible entrances and elevators.

Another communications problem can arise for blind students who need to make telephone calls but cannot read a regular phone book. Students at the University of Kentucky were assisted by the Lexington Lions Club, which published a telephone directory in Braille containing the most-called and emergency numbers.

"Freedom from Handicaps" Speaking Competition

A Handicapped Speech Tournament at Clackamas Community College encouraged communication by persons with orthopedic, hearing or vision impairments. "Freedom from Handicaps" was the topic of the persuasive speaking competition, which was open to all handicapped high school students in the area. This program enabled students to explain their view of handicaps and resulted in six high school students receiving full or partial tuition scholarships to one of Portland's three community colleges.

Photo: West Virginia University



Sample floor plans for barrier-free housing were developed by a team of four handicapped students at Fort Steilacoom Community College. They are part of a pamphlet, "Barrier Free Design of Accessible Housing for the Handicapped," that is available from the campus' Barrier Breakers Club.

Providing the Comforts of Home

Accessible housing, while requiring a lack of stairs, also necessitates many interior design changes. Deaf persons and persons in wheelchairs have particular problems in traditionally designed housing.

Four students at Fort Steilacoom Community College surveyed available housing near their campus and discovered only one possible site within a five-mile radius that could provide accessible housing. Therefore, they developed floor plans for trailers, apartments and houses and put them into a brochure to be distributed to professionals in the housing industry.

Among the guidelines they developed are doors wide enough for 32-inch wide wheelchairs, lowered cupboards and clothes-hanger bars, and bathing areas with enough room for a wheelchair to turn around.

Special accommodations for handicapped persons in apartments at Southern Illinois University at Edwardsville include 32-inch or wider interior doors to bedrooms and bathrooms, bathroom doors opening outward, bath tubs and stools equipped with handrails, different types of ranges installed in the kitchens that can be raised or lowered according to the needs of the occupants (raised for people on crutches; lowered for those in wheelchairs) and ramps built over thresholds.

The University of Texas at Austin modified rooms in a women's dormitory so that persons with physical handicaps can live in them comfortably. Among changes are modifications to desks so that persons in wheelchairs can sit with their legs underneath the desks, changing the closet doors from sliding to swinging, adding handles to dresser drawers that can be grasped with the whole hand, lowering light switches and moving electrical outlets.

Often, only first-floor housing can be made accessible to persons in wheelchairs in buildings that have no elevators. The University of Maine at Orono was able to make second-story apartments in one of its housing units accessible because a banking on the north slope of the building reaches to the second story and serves as a large ramp for wheelchair accessibility.

Recent renovations in Kinsolving Dormitory at the University of Texas at Austin have made that dorm habitable for persons with handicaps. Among other changes, lavatories were lowered and fitted with special fixtures so that persons with orthopedic impairments can use them more easily.

Some common housing problems relate to lavatory facilities. To make shower facilities more accessible at the University of Texas, two showers separated by a curtain can now be used as one shower by a physically handicapped person. One of the showers has been modified to include a hand rail and seat. Also, one of the shower nozzles has been attached to a flexible hose and can be used in while standing or sitting.

The City University of New York provides unisex toilet rooms for handicapped persons only. The rooms have provisions for showering, in addition to all other toilet room necessities and conveniences. The room, which is also equipped with a signaling system and alarm, is lockable and access is key controlled.

Space problems sometimes occur in the traditional dormitory room. Western Michigan University alleviated this problem by remodeling two of its two-person rooms that house four persons into one, two-person suite for use by handicapped persons.

Photo: University of Texas at Austin

At Ferris State College, one student found that the bed height made it difficult to get in bed from her wheelchair. A rehabilitation counselor adjusted the height by adding another mattress to the bunk bed. The adjusted height was ideal, but it provided another problem. It raised the bunk to a point where the student bumped her head on the top bunk when she sat up. In order to raise the entire bed, stilts were built for the legs of the bed so the entire unit could be raised.

Fenwick Towers houses 450 Dalhousie University students in three- and four-bed apartments. It is equipped with ramps, elevators, wide, easy-to-open doors and lowered light switches for easy accessibility.

Photo: Dalhousie University

New Accessible House

A new accessible house designed by an occupational therapist at Fort Steilacoom Community College includes a variety of special features so that it is functional for persons in wheelchairs. These features include a built-in vacuum, intercom, TV and phone terminals in each room, sliding interior doors throughout, floor coverings with wheelchairs in mind, wide hallways and ceilings, and plenty of grab bars.

The home, which was designed and built by Alvin L. Johnson, cost $115,000 to build, including the cost of the lot.

Housing for Deaf Persons

Telephones and doorbells, which hearing persons take for granted, are useless for deaf persons unless modified for their use. Telephone typewriters (TTYs) alleviate

communication problems by enabling deaf students to call friends or to call for help in emergency situations. Iowa Western Community College, which installed 11 TTYs in dormitories, found that the installation "has given our deaf students a lot more independence."

Gallaudet College installed TTYs beside all pay phones in college dormitories. In campus offices where deaf people work, a light flashes when the phone rings. Also, a number of phones throughout the campus are equipped with amplifiers.

A problem arises when people want to visit deaf persons in dormitories, since they cannot hear doorbells or persons knocking on the door. Gallaudet College has installed flashing doorbell light signals. Each signal has a three-way switch with a spring nozzle that permits a person to flip it up and down from outside the student's room, thereby blinking the ceiling light whether it is turned on or off. These lights are now installed in all dormitory rooms at Gallaudet. Iowa Western Community College devised a similar system since people wanting to visit deaf friends had to ask the dorm manager to use the master key and unlock the dorm apartment. Sudden, unexpected door openings, naturally, were startling and irritating to many deaf students.

Gallaudet College also devised a system for letting dormitory residents know someone was looking for them or that someone had called while they were out. A dual message light system provides each student with a light which is activated at the front desk and lets students know if there is a message for them.

For deaf/blind students, Gallaudet College has installed a fan and bed vibrator. The fan is also connected to the doorbell light switch. When a person activates the doorbell light switch, the fan will operate at a low speed, thereby creating a soft draft indicating someone is at the door.

For safety and security of deaf students, "peep sights" have been installed in all Gallaudet College rooms so that deaf persons can see who is outside the door. Where privacy or light controls are not required, the college is installing vision panels in doors to permit visual identification from inside rooms and to permit deaf persons to orient themselves to activities before entering a room.

A Colorado State University student enters the campus Student Services Building using a timed, electric door-opening device.

Photo: Colorado State University

A prototype pool lift demonstrated at Anne Arundel Community College can be kept free of swim lanes during competition or instruction. The feeder air hose is trenched under the tile in permanent installations.

Opening Doors to Special Spaces

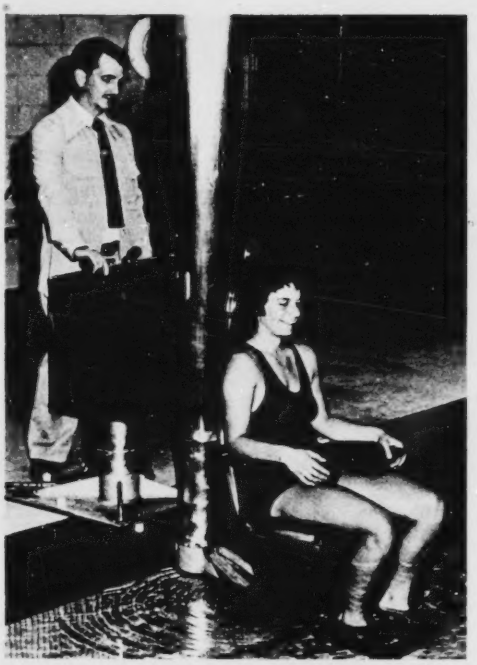


Photo: Anne Arundel Community College

Handicapped students, in the past, have sometimes been exempted from lab requirements and physical education courses. However, many handicapped students are expressing a desire to participate in sports activities and to take science courses. Science facilities often receive a high priority among academic areas because it is difficult to relocate classes in which special laboratory equipment is essential.

Lakeland Community College has purchased four mobile science laboratory stations that are at a height accessible to handicapped persons. Arizona State University has constructed laboratory benches that give students in wheelchairs comfortable access to work areas in science laboratories.

Willamette College has installed a laboratory facility it considers barrier-free and meeting all requirements of handicapped persons. Willamette's accessible lab was built in order to accommodate a science faculty member who uses a walker. Electrical outlets were installed at positions higher than the normal floor outlets. Table legs were cut off to make the table tops lower while still allowing persons in wheelchairs or walkers to place their feet under the table. Water faucets and gas jets were also lowered so that a person in a wheelchair could reach them. An acid-resistant and shockproof surface was added to table tops for safety purposes.

Davidson College's Martin Science Building is currently undergoing a thorough renovation to make it a model chemistry facility for liberal arts colleges. Special laboratory equipment is being installed so that handicapped students can perform all experiments necessary to complete Davidson's chemistry courses, says Grover Meetze, Director of Physical Plant and Facilities Planning.

Fullerton College is planning to offer a special biology course for visually impaired persons using teaching media such as tapes, large print, raised line drawings and simulated models. However, the Section 504 regulations require that even when special accommodations are made, activities available to able-bodied persons must also be open to handicapped persons.

Encouraging Active Participation in Sports

Handicapped students are becoming increasingly interested in participating in athletic activities. Anne Arundel Community College and Boston University have encouraged participation in swimming by installing swimming pool lift devices at their indoor swimming pools. Anne Arundel Community College's pool lift is a stainless steel device with a padded seat, back and footrest. The arms are hinged to facilitate getting on and off from a wheelchair, although many potential users are not in wheelchairs. When an individual is seated in the lift, an operator raises the low pressure, air-powered chair gently off the tile and controls the rotation of the chair directly over the water. The chair is then lowered slowly into the water where the individual may get off and swim or rest at the water's edge.

Boston University has installed a Hoyer lift at its pool in the Case Physical Education Center. It has also installed bowling chutes of two types at the uniquely accessible lanes of the George Sherman Union, enabling even the most severe quadriplegic to participate in the sport.

Rutgers University has modified its College Avenue Gym pool, locker rooms and shower facilities to provide access to handicapped persons. The Division of Sports and Recreation will design a special "recreation regimen" for a handicapped student, upon request.

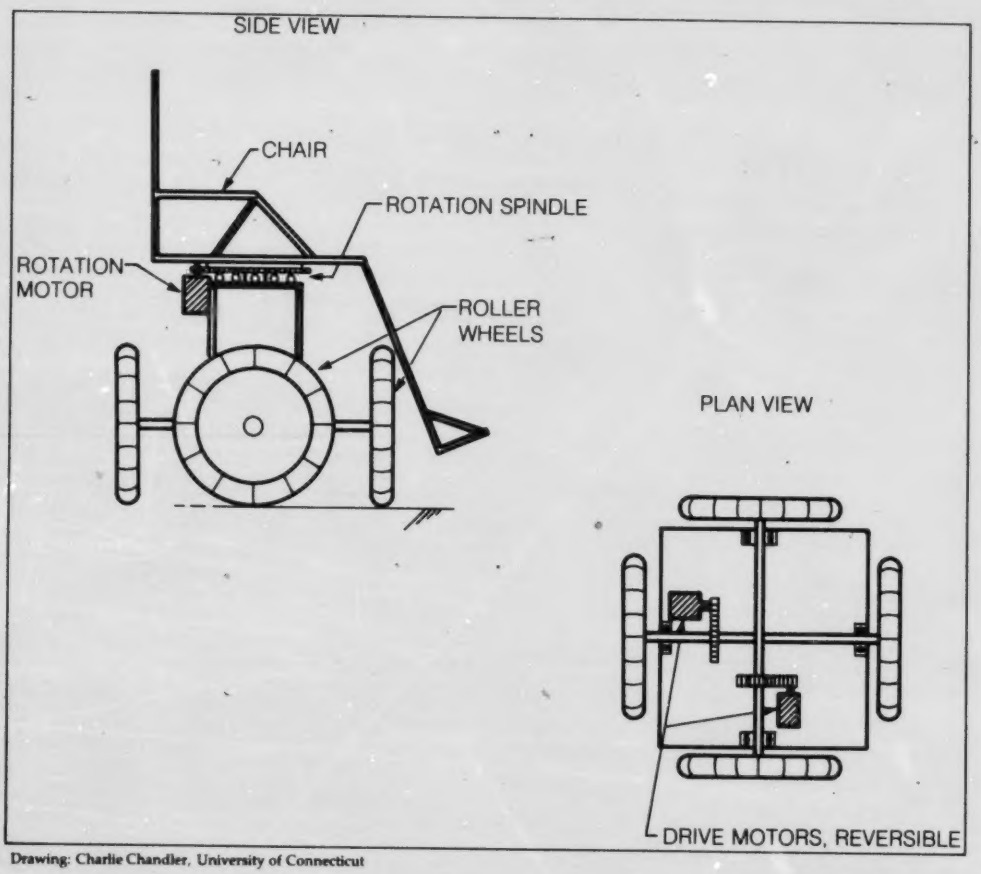
Charlie Chandler, a student in the Mechanical Engineering Department of the University of Connecticut, designed a wheelchair that is especially useful for students participating in athletic activities. It is designed to be more stable than the normal wheelchair, to move faster and to travel sideways, diagonally and backwards. A swivel bottom allows it to move in all directions, and it is designed so that it won't tip. Although Chandler constructed a prototype, the wheelchair has not been put into use.

Western Michigan University's Service for the Handicapped Students offers bowling, snow skiing and camping for handicapped persons. About 40 people competed in a Handicapped Individuals Bowling Tournament, including Western Michigan University's visually handicapped team. Western Michigan's Fred Olver won a trophy for the "high handicap" game with 162 actual points and 246 handicap game points.

Spectator Seating for Handicapped Persons

Enjoyment of sports as a spectator is a universal pastime, one that is made easier for handicapped persons when accessible seating is provided. East Tennessee State University sports events became easily accessible to handicapped persons with the building of its Mini-dome. Oklahoma State University also has made it so that going to a football game "is no big hassle" for all fans supporting the university gridders. Ten seats were removed in the north seating area and a wooden and concrete platform was built in their place to house five standard-size wheelchairs. Before this modification, the only handicapped seats were in the endzone and the south side. That area is now used for seating visiting handicapped fans after the north seating area is filled. Handicapped students and visitors buy their tickets through the same channels as any other person. When placing orders, a person can make a special request for the wheelchair section.

Cerritos College has provided platforms for wheelchair seating in the back two rows of all lecture halls and the performance theater. Each platform is protected by stainless steel tubing to prevent wheelchairs from accidentally rolling into the rows of seats in front of it. The platforms are large enough to hold three or four wheelchairs.



Drawing: Charlie Chandler, University of Connecticut

A wheelchair configuration designed by Charlie Chandler, a University of Connecticut student, would allow the chair user to move in any direction without rotation, and to rotate without change of motion direction.

New Wheels to Freedom

Photo: University of Kentucky

A University of Kentucky student uses one of the two campus shuttle buses (top) that are equipped with lifts at the doors. Each bus can accommodate five or six persons in wheelchairs. Bottom: A Western Michigan University student is lowered from a shuttle bus via a lift device.

Photo: Western Michigan University

Transportation is often a problem for handicapped persons who cannot drive or to whom many buses are inaccessible because of mobility handicaps. Campuses have devised a variety of means of assisting handicapped persons with their transportation needs, including special vans and accessible buses.

The University of Kentucky equipped two campus shuttle buses with lifts at the doors to ease transportation difficulties. Each bus can accommodate five or six persons in wheelchairs.

Several communities near the Southern Illinois University at Edwardsville operate 12-passenger minibuses to transport handicapped and elderly persons to such destinations as grocery stores, doctors' offices, senior citizens' centers and the university campus. The buses are equipped with hydraulic lifts for persons unable to climb steps, and persons in wheelchairs can be safely secured while enroute.

Accessible Vans

On other campuses, vans have helped alleviate transportation problems. A van operated by the Rutgers University First Aid Squad is equipped with a lift to help wheelchairs board and has a raised roof to accommodate standees on crutches. In emergencies, the van can be used as an ambulance.

An ordinary van can be made accessible to persons in wheelchairs by adding a ramp, as was the van belonging to Greg Morrell of East Tennessee State University. Special parking spaces for handicapped persons, being wider, allow vans with ramps to be used and make it easier for handicapped persons to get to classes.

Campuses have also found that snow and bad weather sometimes create transportation problems for handicapped persons who are often able to travel without assistance in normal weather. For example, it is often virtually impossible for persons in wheelchairs to travel in snow. The campus transportation service may need to be expanded to include such persons during inclement weather.

Parking for Handicapped Persons

Setting aside spaces for handicapped persons can benefit many handicapped persons who can drive but who cannot walk or travel long distances. Western Michigan University has set aside approximately 40 spaces for use by handicapped persons only. Any handicapped driver who has either a Michigan Disabled Drivers Permit or a Michigan Handicapped License Plate is allowed to park in either the designated spaces or in any metered zone without fear of retribution. The special permits and license plates do not permit parking in fire

Mary Sysesky, a Rutgers College student handicapped by rheumatoid arthritis, takes a trial run on equipment in a van purchased for transporting handicapped students to classes.

Photo: Rutgers University

Indiana Central University's Krannert Memorial Library includes wide parking spaces near the entrance to accommodate specially-equipped vans used by handicapped persons.

Photo: Indiana Central University

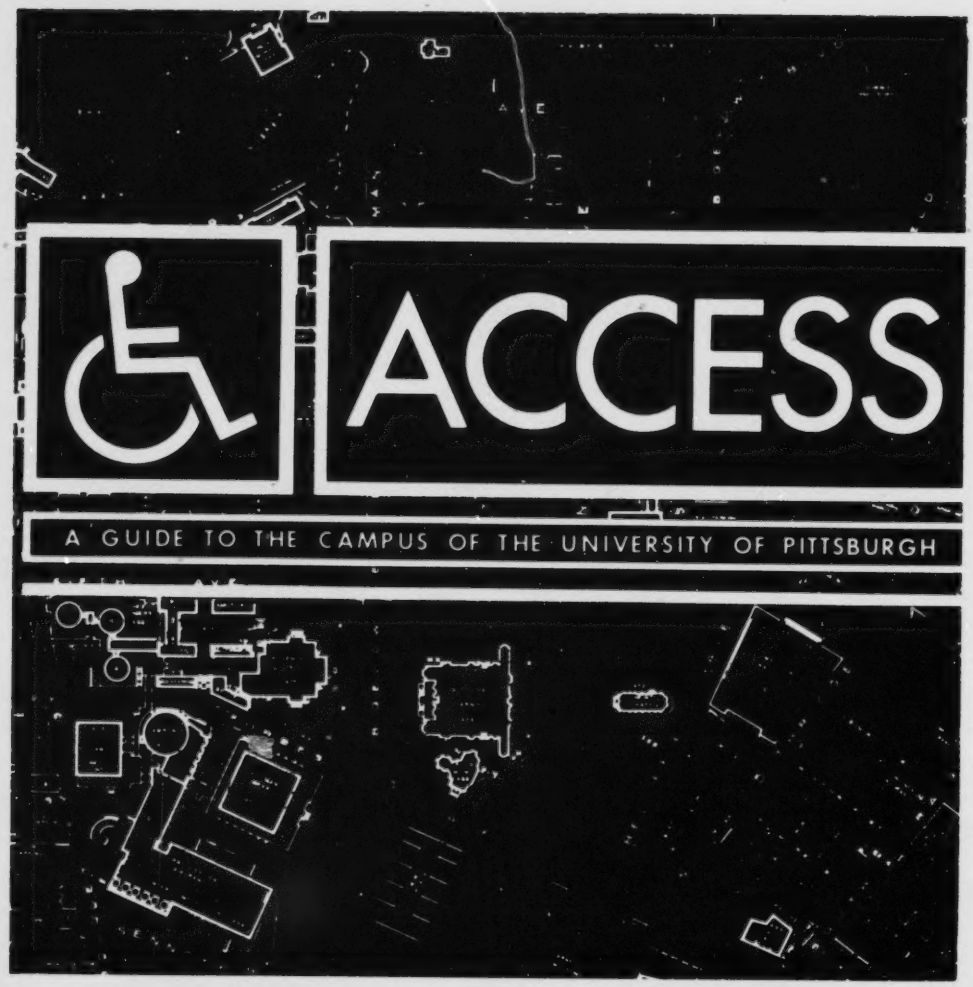
lanes, zones marked to accommodate early morning and afternoon rush hour traffic or on streets or highways where parking is prohibited.

When special parking spaces are provided, problems occur because able-bodied people sometimes disregard the signs and park in reserved spaces. The University of Akron discourages this by immediately towing cars that don't have handicapped stickers. A university security staff member photographs the cars parked illegally before towing. "This always avoids any problems resulting from the towing," says Walter Barzditis, University of Akron's Manager of Parking Services. At the University of Akron, all 7,200 available spots are open to handicapped persons, including the university president's.

The University of Alabama deters illegal parking in handicapped spaces by placing wheel locks on cars. The wheel lock is a bright, orange-colored mechanism that locks onto the wheel hub of a car, once the hub cap is removed. The mechanism is locked in place with a key wrench. Once the lock is on, the wheel cannot rotate without damaging the car fender. The University police officer attaches a wheel lock and places a tag on each door handle of the car informing the driver that he or she must go to the University police station and pay the $25 fine before the wheel lock can be removed.

Greg Morrell of East Tennessee State University enjoys easier access to his van because of a ramp that unfolds into the street to provide easy access to the interior.

Photo: East Tennessee State University



This map appears on the cover of the University of Pittsburgh's 20-page book of accessbility maps.

Putting the Campus on the Map

Persons confined to wheelchairs and blind persons often need information about accessible routes and buildings. Campuses have developed a variety of methods of coding access maps so that persons with mobility impairments can plan to use accessible facilities and routes of travel, when possible. Several campuses have also devised innovative formats for providing maps for blind persons.

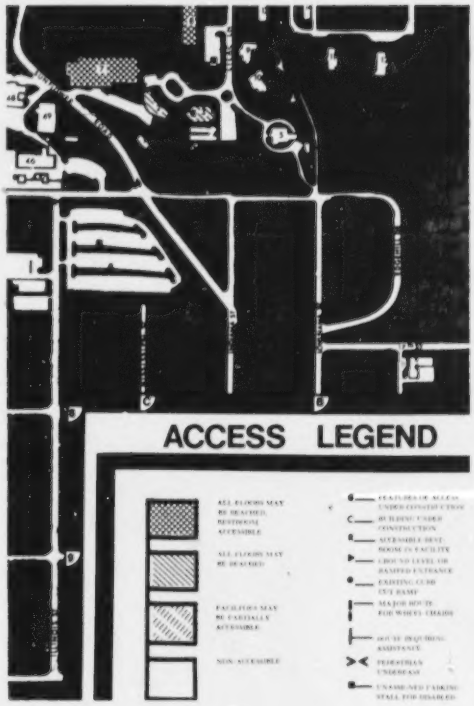
Access Maps

Color coding and symbols have been used to indicate accessible buildings, curb cuts and accessible parking areas, among other accessibility features. The University of Kansas, Lawrence campus uses a cross-hatching technique to indicate degrees of building accessibility. The University of Connecticut accessibility map shows a combination of letter codes and symbols to indicate degrees of accessibility and specific features such as wheelchair entrances, step barriers, stairways or slopes.

The University of Pittsburgh has published a 20-page booklet of maps to help mobility-impaired persons check buildings for accessibility and plan routes between buildings. Maps use symbols to indicate optimum routes, alternate routes, curb ramps of five degrees or less, curb heights or ramp lips more than one-half inch high, campus security emergency phones and other features. Each detailed campus map is accompanied by a verbal description of building entrances.

Oklahoma State University has developed a composite barrier-free accessibility map to aid physically handicapped persons, particularly those using wheelchairs, in their orientation to the campus and to assist in their mobility while on the campus. The guide, an 11" × 12" book of six maps, includes symbols denoting grade level building entrances, ramp locations, suggested wheelchair routes, medical permit parking spaces and buildings with toilet room facilities for handicapped persons.

Cross-hatching and symbols designate accessibility features on the University of Kansas, Lawrence campus accessibility map.



The University of Tulsa compiled a guide to facilities and resources for mobility impaired persons that shows building in light yellow and symbols for various accessibility features in darker yellow. For example, dark yellow circles indicate handicapped parking, rectangles represent buildings accessible to persons in wheelchairs and triangles indicate an incline, with the peak of the triangle indicating upward direction of slope in a sidewalk.

The University of Southern Colorado also uses color coding on its access map. Green sections represent grassy areas, blue rectangles indicate buildings, and yellow areas with diagonal lines indicate ramps.

Florida Atlantic University presents information about accessiblity of campus buildings in an easy-to-read chart that can be used to supplement a regular campus map. It lists each building name, degree of accessibility, location of accessible entrances by direction (east, west, north or south), and whether accessible public phones, elevators or rest rooms are located in the building.

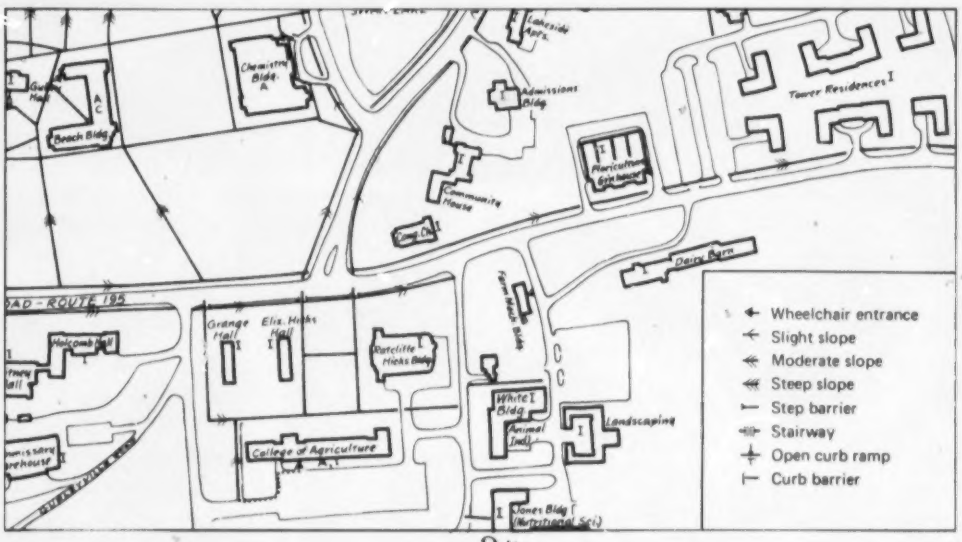
A "Wheeler's Guide" produced by Portland State University provides in a notebook format floor plans of campus buildings and descriptions of locations of accessible entrances, rest rooms and other facilities. The "Wheeler's Guide" also describes accessible Portland Student Services housing and accessible restaurants and taverns located around the University.

Putting the Campus at the Fingertips

Braille and raised line maps have been developed on several campuses for blind students. Oklahoma State University, for example, has developed a six-part tactual guide to the campus, complete with three-dimensional maps and Braille instructions for visually handicapped persons.

The tactual guide for visually handicapped persons is an 11" x 12" book with both visual and relief maps side-by-side. Should a difficult situation arise, a sighted person can assist the blind person in identifying buildings and streets on the relief maps. All

The University of Connecticut access legend depicts another approach to coding maps for accessibility features.



buildings are shown in relief and reflect the actual plan of the structures. Major walkways, vehicular traffic, streets, auto parking and bicycle paths are represented as textured surfaces.

Maps have been simplified to permit ease of tactual comprehension. Buildings and street names are designated in Braille on the relief maps and an explanation in Braille is given in the legend on the opposite page visual map.

Syracuse University has produced experimental plastic molds of maps imprinted with raised and ridged surfaces of coarse substances such as wallpaper and sandpaper. Braille lettering denotes the names of buildings, room numbers and hazards, while raised and impressed arrows signal entrances to buildings and elevators. The raised shapes of the buildings are filled with rubber silicone to prevent their collapse after repeated touching.

After experimental production of the maps at Syracuse University, blind students are to test the maps for reliability and possible design improvements. When the project is completed, the maps will be hung on the inside entrances of buildings and included in a comprehensive handbook about Syracuse University for handicapped persons.

Both Wichita State University and Western Michigan University have developed books of tactual maps for visually impaired persons. The Wichita State University guide includes five maps in raised line drawings and explanatory material in Braille and large print produced in notebook form. The volume contains a map of the entire campus and maps of each quadrant. Western

Photo: Syracuse University

Photo: University of Wisconsin at Madison

A three-dimensional map of the University of Wisconsin at Madison's 900-acre campus is constructed in wood and plastic so that blind persons can "read" it with their fingers to find out about the topography and layout of the campus.

Michigan University's maps, too, appear in notebook form. The maps, which are loaned to visually impaired students in the same manner that library materials are loaned to students, were made by inmates of the Southern Michigan Prison at Jackson.

The University of Wisconsin at Madison has reproduced its 900-acre campus in a 28-foot relief map in wood and plastic. This three-dimensional version is designed to be read with the fingers. Buildings are carved redwood, grassy areas are felt cloth, roads are ebony cloth, railroad tracks are tiny pieces of metal and thumb tacks represent bus stops. The map also indicates steepness of hills and walkways by styrofoam sheets variously carved, stacked and glued. A key at the bottom lists the campus' 180 buildings and landmarks alphabetically in Braille and assigns coordinates for each. The coordinates correspond to a site-location grid system of numbers (along the top of the map) and letters (on a movable vertical bar), also in Braille.

The map was designed and built on a budget of $660 by two University of Wisconsin students. It hangs in a centrally located administration building, in the offices of the University's McBurney Resource Center for Persons with Disabilities. It is reported to be so easy to read that it is used by many newcomers to the campus who are not handicapped.

Tactile maps at Syracuse University answer blind persons' questions about the campus and allow a new freedom of mobility.

Protecting Human Lives

It is not enough for campus facilities and buildings to be accessible to handicapped persons; assuring the safety of persons participating in campus programs is also a vital concern.

The University System of New Hampshire describes a fairly typical situation on college and university campuses. Its 160 buildings, located on four campuses, were constructed and designed either before enactment of or at various plateaus of building and accessibility code development. Some buildings date back to 1895. As a result, the system is a hodgepodge in terms of compliance with current requirements.

Many colleges and universities find themselves in a similar condition. Campus buildings, constructed at different times, vary in their degree of accessibility and safety in emergencies. Institutions have a great concern for safety because of their responsibility for vast numbers of people and financial liability in case of negligence in emergencies. The increasing handicapped population resulting from Section 504 intensifies the concerns.

The University System of New Hampshire has received a capital appropriation from the state of New Hampshire for a project entitled "Life Safety Code and Handicapped Study." This follows up the development of a master plan that addresses the current and future needs of all university buildings in terms of accessibility and life safety. The study is designed to make the University of New Hampshire campuses safer places for students, faculty and staff.

Elevator panels at Colorado State University include Braille symbols for buttons needed in emergency situations.

Communications problems in emergency situations are being overcome on some campuses by buzzer systems and special telephones. The University of Alabama has installed six blue light emergency phones outdoors around its campus. Each phone, topped with a bright blue light for easy evening identification, is set on a pole around a wide concrete foundation, low enough for a person in a wheelchair to use it and get to it easily. The phone, which has no dial, connects immediately to the University Police dispatcher on duty 24 hours a day.

The University of Alabama has also installed warning buzzers at major traffic light intersections. A blind person uses the system by pressing a buzzer when wanting to cross a street. The buzzer sounds when traffic is stopped and the blind student knows the way is clear.

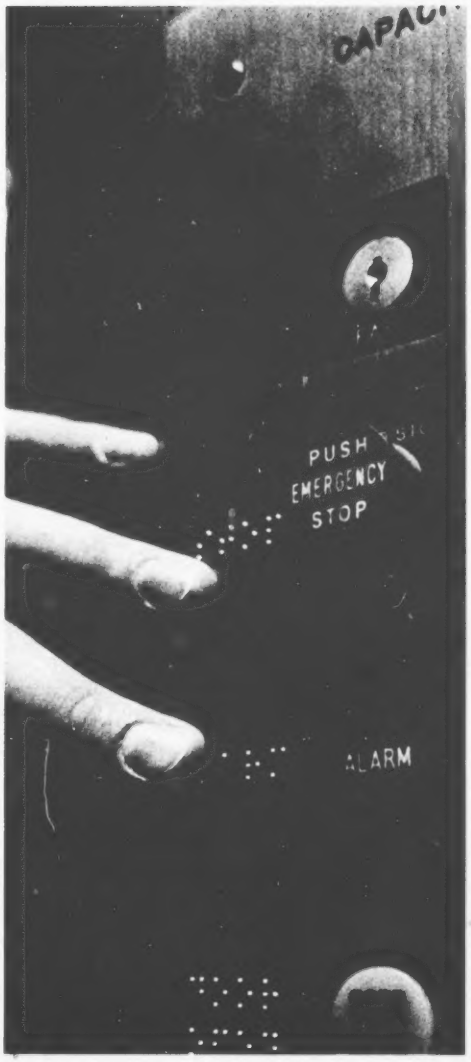


Photo: Colorado State University

King's College has installed a buzzer system so that students traveling around campus in wheelchairs can get help in emergencies, especially when they find themselves alone outside campus buildings.

Because it is specifically designed for use by deaf persons and individuals with other handicaps, Gallaudet College has a number of systems set up for life safety purposes. A bright orange box has been installed at most entrances to the campus for emergency use. Pushing a button inside the box signals campus security officers that someone needs help. In an emergency, this means that deaf persons do not have to run for help or depend upon someone to call.

Flashing strobe lights attached to the fire alarm system notify deaf persons of fires. Strobe lights similar to the electronic

flashes used with cameras have been installed in all residence hall rooms, rest rooms and public areas on Gallaudet's campus. The strobe system, when activated, flashes at the rate of 45 to 50 pulses per minute at 15 volts per flash, generated within each unit. Constant 110 volt A.C. current is applied to all units during the fire alarm cycle. Also huge flashers on the roof of a Gallaudet College building can be activated to let students know it is all clear to return to the building. In addition to the visual and audible signal, Gallaudet is installing smoke detectors that will activate the strobe system.

For deaf/blind students, the college has installed fans and bed vibrators. When the fire alarm goes off, the fans will run at high speed, creating a hard draft. If a student is in bed, the vibrator will warn the student. This fan is also connected to the doorbell light switch. When the doorbell is activated, the fan operates at a low speed, creating a soft draft.

Elevator malfunctions can be especially frightening for deaf persons who have no way of knowing if anyone hears them yelling for help. Gallaudet has installed an emergency elevator malfunction warning in all dormitories that have elevators. The warning system is connected to the computer system in the physical plant department. When a person is stuck in an elevator, the warning activates a light so the person on duty knows there is a problem. The physical plant employee will flip a switch that turns on a sign saying "Help is on the way."

Deaf persons confined to wheelchairs can notify a person in the dorm office if they fall out of a wheelchair or need help. An emergency call system installed in one of Gallaudet's dorm rooms is activated by either pushing a button or yelling so that the call system's voice box will cause a light to flash in the dorm office.

Wheelchair breakdowns can also be a safety problem for handicapped students. Welding students and instructors at Ferris State College cooperate in repairing broken wheelchairs. Students and faculty in the automotive programs assist in correcting mechanical and electrical problems in wheelchairs. Owners of battery-operated wheelchairs can recharge batteries daily by plugging them into wall sockets. When a major recharging is needed, the battery goes to Auto Service.

Blind students are sometimes hurt when they encounter sidewalk obstructions such as temporary construction or a landscape grounds truck. The University of Alabama is considering providing the university police department, landscape grounds department and other pertinent offices with some type of portable structure with a bell on a rope attached to place directly in front of any kind of temporary obstruction on a campus sidewalk. By tapping the rope with their canes, blind persons will know that an obstruction is ahead.

The State University of New York (SUNY) at Buffalo has established emergency procedures for its campus buildings. The Office of Environmental Health and Safety has organized volunteers in each university building to be prepared for a fire or other emergency. These volunteers are usually trained in evacuation, first aid and fire control procedures. Handicapped students are asked to notify the building representative of the times they will be in a building and of their location within the building. Handicapped students living in residence halls are asked to attach the international symbol of access to outside windows of their rooms and on their doors.

Some basic emergency procedures outlined by SUNY at Buffalo may be especially helpful for handicapped persons:

1. Locate existing enclosed stairways.
2. Plan a normal evacuation route and an alternate evacuation route.
3. In the event of fire or smoke on the floor of occupancy, it may be possible to move laterally within the building to a stairwell opposite the origin of fire or smoke and remain on the same floor without evacuating until an absolute necessity has been determined.
4. It may also be possible to move two floors below the floor of fire and wait for instructions before resorting to full evacuation.
5. If a hallway is full of dense smoke or high heat, it will be safer to stay in a room behind a closed door than to attempt evacuation.
6. When staying in a room, attract attention by waving a cloth or coat out the window and calling for help.
7. Be prepared to instruct individuals how to move a wheelchair down a stairway or to instruct individuals how to carry one out on a chair.

Graduation ceremonies, a landmark for all persons, may be especially meaningful for handicapped graduates.

Photo: University of Southern Maine

The Ultimate Benefit

"There is not one thing I cannot do with five fingers. And whenever I do something with five fingers, and I realize other people need twice as many fingers to do it, it gives me a lot of satisfaction. A person with ten fingers is a handicapped person to one with five because he needs twice as many to do the job."

This quote is from Klaus Rothe of Fort Steilacoom Community College, who lost his right hand in a dynamite explosion. These words allude to a key concept behind Section 504 and other accessibility requirements: that handicapped persons are usually able to do most of the things able-bodied people can do; they only need the same opportunities that are available to anyone else. Accessible facilities and positive attitudes can help provide all persons the opportunity to contribute to society and lead fulfilling, independent lives.

Handicapped students at various colleges and universities have brought distinction to themselves and to their campuses. Claire Jo Schnitz, an invalid since childhood due to polio, completed work toward a degree at the University of Texas at El Paso with a straight-A average. Cindy Patton of Boston University competes in swimming, shot-put, javelin, discus, racing, archery and table tennis. She has won gold, silver and bronze medals locally and nationally, and competes both in events for the able-bodied and for persons in wheelchairs. She came to Boston University after injuring her spine in a skiing accident.

Handicapped students have brought honor to Ferris State College off campus and honor to themselves on campus. Two Ferris students won gold medals in the XIX World Games for the Deaf in Belgrade, Yugoslavia. One sparked the American team by winning five gold medals, one for each event he was allowed to enter. A female student at Ferris won several events in the Pan-American wheelchair games, and a Ferris wheelchair basketball team placed fourth in the nation last year, out of about 200 teams. On the Ferris campus, two students in wheelchairs have been elected Homecoming Queens. Another student confined to a wheelchair was named Woman of the Year.

According to a recent HEW study, "Handicapped college students surpass other college students in academic interest, academic drive and in having organized, methodical study habits." Perhaps the interest and achievements are greater because of the problems involved in overcoming handicaps. "Overcoming their actual handicap is a problem; overcoming their feelings of worthlessness and despair may

be even more difficult," says Dr. Valerie Schneider, Professor of Speech at East Tennessee State University.

Handicapped students often set an example for other students by their spirit, drive and determination. Albert Rye, Jr., who is paralyzed except for limited movement in his left arm, head and neck, displays his determination by painting with his partially functional arm and hand and is trying a new technique — drawing with a pen clenched between his teeth. One major source of inspiration to the University of Texas at El Paso art student is Joni Eareckson, who overcame years of depression and a suicidal urge after a freak accident that paralyzed her. She perfected a technique for drawing by mouth, and now tours the country, sponsored by Flair pens, and delivers lectures on her art and faith.

Upon graduation, most handicapped persons are able to lead normal lives and contribute to their community. Joanne MacLeod, a 1961 graduate of the University of British Columbia, has been deputy registrar of the Supreme Court of Brunswick since 1973. The Canadian Merit Award Committee presented her with the Outstanding Young Woman of the Year Award. Ten years after graduation in 1961, she returned to graduate from law, and was still the only person in a wheelchair to attend the University of New Brunswick.

Many steps have been taken toward accessibility on college and university campuses, and each one is likely to have a visible result in helping to eliminate the misconceptions people commonly have about handicapped persons. Each step is also likely to help handicapped persons continue to demonstrate that a handicapped body does not indicate limited abilities or talents.

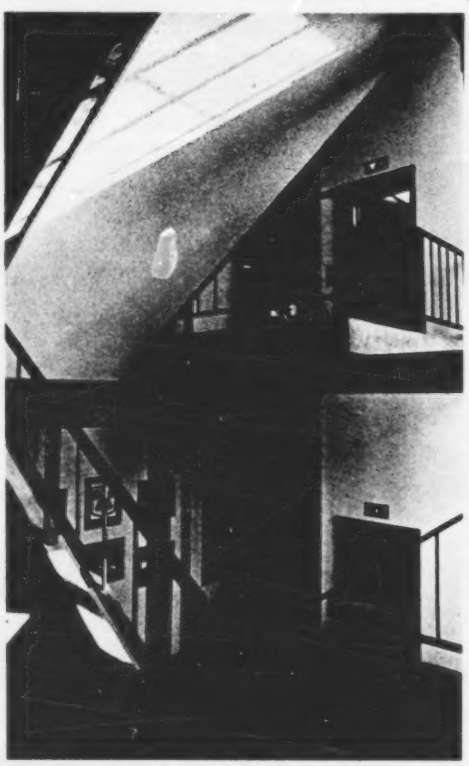
Making campuses accessible benefits not only handicapped persons but also helps able-bodied, elderly and temporarily injured persons. Better building design is for everyone's benefit, not just a minority, permanently immobilized, points out Darrel Ackerman, a consultant to Willamette University, University of Oregon and other institutions on what steps they must take to accommodate handicapped persons. As an activist enemy of architectural barriers, Ackerman is keenly aware of the most subtle obstacles to a handicapped person's mobility.

His list of obstacles includes stairs and their edges, handrails, curbs, narrow parking stalls, doorknobs and sliding glass doors. Harmless to most, these commonplace items might become obstacles to anyone, he argues. Anyone can grow old, Ackerman says, and unable to climb a flight of stairs. Anyone can get arthritis and lose the ability to turn a doorknob. Anyone can break a leg and have to use a wheelchair for a time. And anyone can get hit by a car and be paralyzed for life. It happened to Ackerman when he was 26 and riding a motorcycle when an automobile struck him and broke his spine.

"Buildings are designed for the architect," maintains the University of Oregon master's degree candidate in public affairs. "They're designed cost-effectively. They're not designed for people."

Higher education is trying to change that. Many campus administrators are demonstrating a desire to go beyond complaince with accessibility requirements to develop an environment in which all individuals can reach their fullest potential as human beings.

A new era of equality for handicapped persons has begun.



Bill Dimock, a Colorado State University, is framed by former obstacles that have been overcome.

Photo: Colorado State University

Acknowledgements

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UNIVERSITY OF AKRON
Akron, Ohio 44325
Mary O'Neil
Director, University News Service
(216) 375-7230

UNIVERSITY OF ALABAMA
P.O. Box 6123
University, Alabama 35486
Kim Stewart
Assistant to the Director of University Relations
(205) 348-5765

ALBRIGHT COLLEGE
Reading, Pennsylvania 19604
LeRoy W. Withers
Superintendent of Buildings and Grounds

AMERICAN UNIVERSITY
Massachusetts and Nebraska Avenues, N.W.
Washington, D.C. 20016
Ann Stevens
Associate Director of University Relations
(202) 686-2806

ANNE ARUNDEL COMMUNITY COLLEGE
101 College Parkway
Arnold, Maryland 21012
Robert K. Sheehan
Director of Budget and Construction
(301) 647-7100

ARIZONA STATE UNIVERSITY
Tempe, Arizona 85281
Bob Fails
Director, Management Support Services
Department of Physical Facilities

UNIVERSITY OF ARKANSAS AT LITTLE ROCK
33rd and University
Little Rock, Arkansas 72204
Barbara Prior
Coordinator of Resources for the Disabled
(501) 569-3188

AUGUSTANA COLLEGE
Rock Island, Illinois 61201
Frank F. Telleen
Director of Information Services
Tom Wiese
Director of Physical Plant
(309) 794-7000

BOSTON UNIVERSITY
19 Deerfield Street
Boston, Massachusetts 02215
Pat Del Torto
University News Bureau
(617) 353-3662

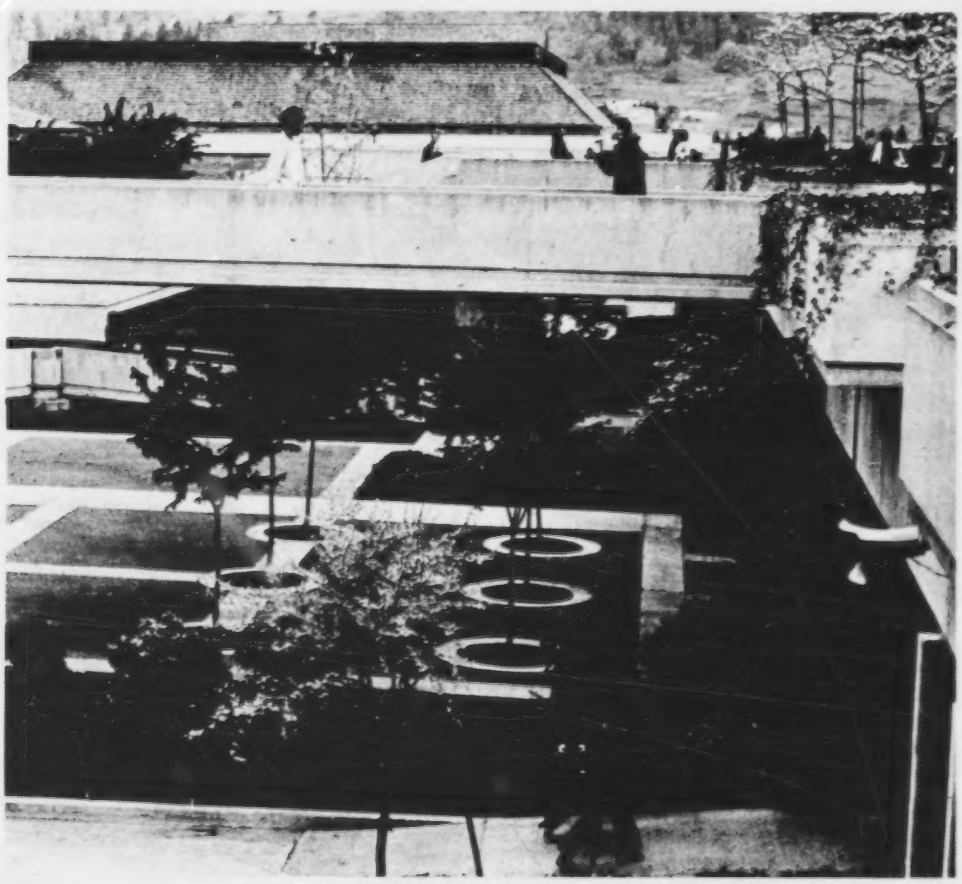

Photo: Lane Community College

UNIVERSITY OF BRITISH COLUMBIA
Cecil Green Park
6251 Cecil Green Park Road
Vancouver, Canada V6T 1X8
Harry J. Franklin
Executive Director, Alumni Association
(604) 228-3313

BROWARD COMMUNITY COLLEGE
225 East Las Olas Boulevard
Fort Lauderdale, Florida 33301
Edee Greene
Director of College Relations
Dr. Bruce Ivey
Assistant to the President
(305) 467-6700

BRYANT COLLEGE
Smithfield, Rhode Island 02917
(401) 231-1200

BRYN MAWR COLLEGE
Bryn Mawr, Pennsylvania 19010
Diane Balestri
Dean, Class of 1981

UNIVERSITY OF CALGARY
2920 24 Avenue, N.W.
Calgary, Canada T2N 1N4
V. Swanberg
Planning and Construction Officer
Department of Physical Plant
(403) 284-5321

CALIFORNIA STATE UNIVERSITY AT FULLERTON
Fullerton, California 92634
N. Regan Espindola
Assistant Campus Planner
(714) 870-2122

CALIFORNIA STATE UNIVERSITY AT NORTHRIDGE
Northridge, California 91330
Jack Hug
Director of Plant Operation

UNIVERSITY OF CALIFORNIA SYSTEMWIDE ADMINISTRATION
Berkeley, California 94720
John A. Burnett
Construction and Plant Operations Engineer

UNIVERSITY OF CALIFORNIA AT SAN DIEGO
La Jolla, California 92093
Paul W. West
Director of Public Information

CERRITOS COLLEGE
11110 East Alondra Boulevard
Norwalk, California 90650
Jay Malinowski
Director, Public Information
(213) 860-2451

CHRISTOPHER NEWPORT COLLEGE
P.O. Box 6070
Newport News, Virginia 23606
Vivian A. Johnson
Public Information Officer

CITY UNIVERSITY OF NEW YORK
Department of Technical and Operational Services
535 East 80 Street
New York, New York 10021
Henry Mortarotti
Director of Facilities Planning and Management
Lucille Murawski
Section 504 Coordinator
(212) 725-3067

CLACKAMAS COMMUNITY COLLEGE
19600 South Molalla Avenue
Oregon City, Oregon 97045
Information Office
(503) 656-2631

COLORADO STATE UNIVERSITY
Fort Collins, Colorado 80523
L. Terry Suber
Director of Physical Plant
Ken Williams
Resident News Editor
(303) 491-6432

UNIVERSITY OF COLORADO
382 Willard Administrative Center
Boulder, Colorado 80309
Steven Wilhelm
University News Service
(303) 492-6431

UNIVERSITY OF COLORADO AT DENVER
1100 Fourteenth Street
Denver, Colorado 80202
Tom S. Stein
Director, Community Relations
(303) 629-2523

UNIVERSITY OF CONNECTICUT
Storrs, Connecticut 06268
Rita Pollack
Coordinator, Special Student Services
Walter S. McGowan, Jr.
Director of Public Information
Bob Jerard
Assistant Professor, Mechanical Engineering
(203) 486-2020

CORPUS CHRISTI STATE UNIVERSITY
630 Ocean Drive
P.O. Box 6010
Corpus Christi, Texas 78411
Truett K. Grant
Director of Physical Plant
(512) 991-6810

DALHOUSIE UNIVERSITY
Halifax, Nova Scotia
Gina Wilkins Slopek
Information/Public Relations Officer
(902) 424-2517

DARTMOUTH COLLEGE
302 Crosby Hall
Hanover, New Hampshire 03755
Marjorie Boley
Facilities Planning Office
Robert B. Graham, Jr.
Director of Information Services
(603) 646-2255

DAVIDSON COLLEGE
Davidson, North Carolina 28036
Earl Lawrence
News Director
(704) 892-8021

EAST STROUDSBURG STATE COLLEGE
East Stroudsburg, Pennsylvania 18301
Charles O. Baughman
Director of Public Relations
(717) 421-4080 ext. 225

EAST TENNESSEE STATE UNIVERSITY
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Kristn Clark Fry
Alumni News Editor
Division of University Relations
(615) 929-4317

EISENHOWER COLLEGE
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Director of Public Relations
(315) 568-7265

ELIZABETH SETON COLLEGE
1061 North Broadway
Yonkers, New York 10701
Sister Helen O'Connor
Director of Alumni Relations

FERRIS STATE COLLEGE
Big Rapids, Michigan 49307
Max G. Cooper
News Editor
(616) 796-9971

FLORIDA ATLANTIC UNIVERSITY
Boca Raton, Florida 33431
Eddie Bartholomew
News Bureau
(305) 395-5100

FORT STEILACOOM COMMUNITY COLLEGE
9401 Farwest Drive, S.W.
Tacoma, Washington 98498
Jack Feringer
Assistant to the Special Needs Coordinator
Office of Career Education
(206) 964-6500

GALLAUDET COLLEGE
Kendall Green
Washington, D.C. 20002
Dick Hoke
Barrier Free Design Coordinator
J. Gail Levo
Administrative Secretary to the Director of Physical Plant
(202) 447-0800

GOVERNORS STATE UNIVERSITY
Park Forest South, Illinois 60466
Janice B. Schluntz
Administrative Secretary, Physical Plant
(312) 534-5000

GUILFORD COLLEGE
5800 W. Friendly Avenue
Greensboro, North Carolina 27410
Dave Owens
Publications Department

HARVARD UNIVERSITY
900 Holyoke Center
75 Mt. Auburn Street
Cambridge, Massachusetts 02138
Donald W. Warner
Planning Officer, Handicapped Programs
(617) 495-2234

UNIVERSITY OF HAWAII AT MANOA
Office of Facilities Management
Physical Plant Building
2002 East-West Road
Honolulu, Hawaii 96822
Philip W. Koehler
Director, Facilities Management
(808) 948-8961

INDIANA CENTRAL UNIVERSITY
1400 East Hanna Avenue
Indianapolis, Indiana 46227
Don Frick
Public Relations Director
(317) 788-3298

INDIANA STATE UNIVERSITY AT EVANSVILLE
8600 University Boulevard
Evansville, Indiana 47712
Sherrianne Standley
Assistant to the President
(812) 464-1756

INDIANA UNIVERSITY
306 N. Union Street
Bloomington, Indiana 47405
Ann Colbert
Writer
(812) 337-3911

INDIANA UNIVERSITY SOUTHEAST
4201 Grant Line Road
P.O. Box 679
New Albany, Indiana 47150
Robert G. Cole
Director of University Relations
(812) 945-2731

IOWA WESTERN COMMUNITY COLLEGE
Council Bluffs Center
2700 College Road
Council Bluffs, Iowa 51501
Kathleen A. Sullivan
Coordinator of College Relations
(712) 328-3831

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4000 Sunset Boulevard
Steubenville, Ohio 43952
Peter J. McCafferty
Director of Community Relations
(614) 264-5591

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223 Strong Hall
Lawrence, Kansas 66045
Allen L. Wiechert
University Director of Facilities Planning
(913) 864-3175

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Lexington, Kentucky 40506
David Holt
Director, University News Bureau
(606) 257-1780

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John Engel
Director of Public Information
(717) 824-9931

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C.L. Pearson
Director, Administrative Services
(816) 626-2350

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Mentor, Ohio 44060
Des Dandalides
Director, College/Community Relations
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4000 East 30th Avenue
Eugene, Oregon 97405
Larry Romine
Director, College/Community Relations
(503) 747-4501

LOUISIANA STATE UNIVERSITY
Baton Rouge, Louisiana 70803
Oscar Richard
Director of Information Services
(504) 388-4461

UNIVERSITY OF LOUISIANA
Louisville, Kentucky 40208
Ellen Hall
Media Relations Officer

UNIVERSITY OF MAINE AT ORONO
Orono, Maine 04473
Department of Public Information and Central Services
(207) 581-7336

UNIVERSITY OF MARYLAND AT BALTIMORE COUNTY
5401 Wilkens Avenue
Baltimore, Maryland 21228
H.J. Harmon
Civil Engineer
(301) 455-2281

UNIVERSITY OF MELBOURNE
Parkville, Victoria, Australia 3052
M.R. Pawsey
Controller of Buildings

MICHIGAN TECHNOLOGICAL UNIVERSITY
Houghton, Michigan 49931
Larry Chambers
Manager, Communication Services
(906) 487-2354

UNIVERSITY OF MINNESOTA
100 Church Street, S.E.
Minneapolis, Minnesota 55455
Roger Drewicke
Handicapped Access Coordinator

MISSISSIPPI VALLEY STATE UNIVERSITY
Itta Bena, Mississippi 38941
Alfred Arrington
Chairman, Section 504 Self-Evaluation Committee

MOHAWK COLLEGE OF APPLIED ARTS AND TECHNOLOGY
135 Fennell Avenue West
Hamilton, Ontario, Canada L8N 3T2
Siebren J. de Jong
Director of Physical Plant
(416) 389-4461

MONTGOMERY COLLEGE
Rockville, Maryland 20850
Helmuth O. Froeschle
Director of Public Information
(301) 762-6088

NEW HAMPSHIRE COLLEGE
2500 North River Road
Manchester, New Hampshire 03104
Fannie Lucas Gleason
Director of Communications
(603) 668-2211

UNIVERSITY SYSTEM OF NEW HAMPSHIRE
Lee Center
Durham, New Hampshire 03824
Nancy E. Todd
Director of Physical Plant Development
(603) 862-1420

NORTH TEXAS STATE UNIVERSITY
Denton, Texas 76203
Office for Services to the Handicapped
(817) 788-8026

NORTHEASTERN UNIVERSITY
360 Huntington Avenue
Boston, Massachusetts 02115
R. Reid Risska
Staff Writer, Office of Public Information
(617) 437-2192

UNIVERSITY OF NORTHERN IOWA
Cedar Falls, Iowa 50613
Vicki Grimes
Assistant Director and News Service Manager
(319) 273-2761

NORTHERN MICHIGAN UNIVERSITY
Marquette, Michigan 49855
Matthew J. Surrell
Vice President for University Affairs

NOTRE DAME COLLEGE
2321 Elm Street
Manchester, New Hampshire 03104
Sharon G. Callahan
Director of Public Relations
(603) 669-4298

OAKLAND UNIVERSITY
Rochester, Michigan 48063
Jim Llewellyn
News Director
(313) 377-3180

OKLAHOMA STATE UNIVERSITY
Stillwater, Oklahoma 74074
Bill Ellis
Division of Public Information

PIKES PEAK COMMUNITY COLLEGE
5675 South Academy
Colorado Springs, Colorado 80906
Helen Anderson
Public Information Officer
(303) 576-7711

UNIVERSITY OF PITTSBURGH
Plant Services and Building Maintenance Division
B-76 Benedum Hall
3900 O'Hara Street
Pittsburgh, Pennsylvania 15261
A.V. Conklin
Associate Director, Plant Services and Maintenance
(412) 624-5689

PORTLAND STATE UNIVERSITY
P.O. Box 751
Portland, Oregon 97207
Cynthia R. Callis
Coordinator, Handicapped Student Services
(503) 229-4452

PURDUE UNIVERSITY CALUMET CAMPUS
Calumet, Illinois
University Relations Office
(219) 844-0520

RADFORD COLLEGE
Radford, Virginia 24142
Rick Rogers
Information and Publications Office
(703) 731-5324

RUTGERS UNIVERSITY
New Brunswick, New Jersey 08903
Virginia Lee Lussier
Executive Assistant to the Provost
Pam Blake
Staff Writer, Rutgers News Service
(201) 932-7461

SAINT JOSEPH'S COLLEGE
Rensselaer, Indiana 47978
Alfred Hentschel
Superintendent of Buildings and Grounds
(219) 866-7111

SAINT LOUIS COMMUNITY COLLEGE
5801 Wilson Avenue
St. Louis, Missouri 63110
Sandy Richolson
Community Relations Specialist
(314) 644-6400

UNIVERSITE DE SHERBROOKE
Sherbrooke, Quebec J1K 2R1
Luc Lamoureux
Le Directeur du Service de L'Equipment

UNIVERSITY OF SOUTHERN COLORADO
2200 North Bonforts Boulevard
Pueblo, Colorado 81001
Wayne McMurty
Director of Facilities
(303) 545-8361

SOUTHERN ILLINOIS UNIVERSITY AT EDWARDSVILLE
Edwardsville, Illinois 62026
Sam L. Smith
Director, University News Services
(618) 692-3600

STATE UNIVERSITY OF NEW YORK AT BINGHAMTON
Binghamton, New York 13901
Barbara Jean Fairbairn
Coordinator, Office of Programs for Disabled Students
(607) 798-2686

STATE UNIVERSITY OF NEW YORK AT BUFFALO
Buffalo, New York
Office of Services for the Handicapped
(716) 831-3126

STATE UNIVERSITY OF NEW YORK AT PLATTSBURGH
Plattsburgh, New York 12901
J. Derek Allan
Facilities Director
(518) 564-3078

SUFFOLK UNIVERSITY
Beacon Hill
Boston, Massachusetts 02114
D. Bradley Sullivan
Dean of Students/Handicap Convener
(617) 732-4700

SYRACUSE UNIVERSITY
105 Administration Building
Syracuse, New York 13210
Steve Schroeder
University News Bureau
(315) 423-4731

TENNESSEE TECHNOLOGICAL UNIVERSITY
Cookevile, Tennessee 38501
Joe Farris
Director of News Services
(615) 528-3214

UNIVERSITY OF TEXAS AT AUSTIN
Austin, Texas 78712
Nancy M. Cripps
Writer, News and Information Services
(512) 471-3151

UNIVERSITY OF TEXAS AT EL PASO
El Paso, Texas 79968
Sue Wimberly
Secretary, News Service
(915) 747-5526

UNIVERSITY OF TEXAS AT SAN ANTONIO
Health Science Center
7703 Floyd Curl Drive
San Antonio, Texas 78284
Annette Richardson
Director, Office of News and Information
(512) 691-6327

UNIVERSITY OF TOLEDO
2801 W. Bancroft Street
Toledo, Ohio 43606
Fred Mollenkopf
Director of Public Information
(419) 537-2675

UNIVERSITY OF TULSA
600 South College Avenue
Tulsa, Oklahoma 74104
Judy Elswick
News Bureau Editor
(918) 939-6351

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Blacksburg, Virginia 24061
Alice M. Starcke
Information Officer
College of Architecture and Urban Studies
(703) 961-6415
Barrier Free Environments Referral Service
(800) 526-6179

WAKE FOREST UNIVERSITY
Winston-Salem, North Carolina 27109
Harold S. Moore
Director of Physical Plant

WEST VIRGINIA UNIVERSITY
Morgantown, West Virginia 26506
Bob Fullerton
Information Officer, News Service
Bill Aston
Science Writer, News Service
(304) 293-6366

WESTERN MICHIGAN UNIVERSITY
Kalamazoo, Michigan 49008
Larry K. Adams
Chief Engineer, Physical Plant
(616) 383-8183

WESTERN WASHINGTON UNIVERSITY
Bellington, Washington 98225
Joan Best Stewart
Affirmative Action Officer
(206) 676-3350

WICHITA STATE UNIVERSITY
Wichita, Kansas 67208
Max A. Schaible
Director of Information and Public Events
(316) 689-3045

WILLIAM PATERSON COLLEGE OF NEW JERSEY
300 Pompton Road
Wayne, Ohio 07470
William A. Duffey
Director of Facilities
(201) 881-2000

WILLAMETTE UNIVERSITY
Salem, Oregon 97301
Ralph Wright
Assistant to the President for University Relations
(503) 370-6348

WINTHROP COLLEGE
Rock Hill, South Carolina 29730
Peter R. Pepinsky
Public Affairs Director
(803) 323-2236

UNIVERSITY OF WISCONSIN AT MADISON
117 Bascom Hall
500 Lincoln Drive
Madison, Wisconsin 53706
Blair H. Mathews
Assistant Dean of Students
and Assistant to Vice Chancellor
(608) 263-5700

UNIVERSITY OF WISCONSIN AT STOUT
Menomonie, Wisconsin 54751
Dan Newhall
Director of Physical Plant

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XAVIER UNIVERSITY
Victory Parkway
Cincinnati, Ohio 45207
Linnea Lose
Office of Public Information
(513) 745-3331

YOUNGSTOWN STATE UNIVERSITY
Youngstown, Ohio 44555
Nick J. Leonelli
Director of Campus Development

APPA Publications on Campus Accessibility

Creating An Accessible Campus, edited by Maggie Coons and Margaret Milner, is a 160-page illustrated guide to accessible design for handicapped persons. It features an introduction entitled "The Handicapped Building" and nine chapters tracing the steps in developing a campus accessibility program.

Single copies of **Creating An Accessible Campus** are available for $4.50 prepaid, until May 31, 1979; $12.50 prepaid after that date. Published in October, 1978.

Accessibility Information is a six-page technical resources flyer designed to help campus administrators develop accessibility for handicapped persons. It briefly reviews the accessibility requirements of HEW's regulations implementing Section 504 of the Rehabilitation Act of 1973, lists selected publications on handicapped accessibility, provides addresses of information services and sources of technical assistance, and presents a listing of selected multimedia presentations dealing with accessibility issues.

Single copies available at no charge. Published in January, 1979.

"Matching Places to People" contains a 22" × 25½" poster and a three-page suggested handicapped awareness program for persons who actually implement modifications, such as physical plant employees. In a colorful, informative format, the poster presents some of the key requirements of accessible facilities involving space, circulation, signs/signals and sound/light requirements. Single copies of "Matching Places to People" are $2.50 prepaid. Published in January, 1979.

Steps Toward Campus Accessibility features photo-essays on progress campuses have made in achieving program accessibility for handicapped persons. It is designed to recognize efforts campuses have made and to help campus administrators generate feasible solutions to accessibility problems, in compliance with Section 504 of the Rehabilitation Act of 1973. Both common problems and innovative solutions to unique problems are included.

Single copies are available for $5.50 prepaid. Published in March, 1979.

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APPA's Accessibility Activities

APPA is a key participant in Project HEATH (Higher Education and the Handicapped). This interassociation project, sponsored by the Department of Health, Education and Welfare, is designed to help colleges and universities economically achieve the goals of HEW's regulations implementing Section 504 of the Rehabilitation Act of 1973.

As part of Project HEATH, APPA conducted a seminar series, announced one week after the HEW regulations were signed, on achieving compliance with Section 504. It has also published *Planning for Accessibility, Creating an Accessible Campus,* "Accessibility Information," "Matching Places to People" and *Steps Toward Campus Accessibility.*

To assist campuses in achieving program accessibility, APPA operates the Campus Accessibility Hotline at (202) 234-1664. APPA also maintains a Consultants and Speakers Registry.

The Association of
Physical Plant Administrators of
Universities and Colleges

APPA

Eleven Dupont Circle, Suite 250
Washington, D.C. 20036
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